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MY
FIRST
VOYAGE

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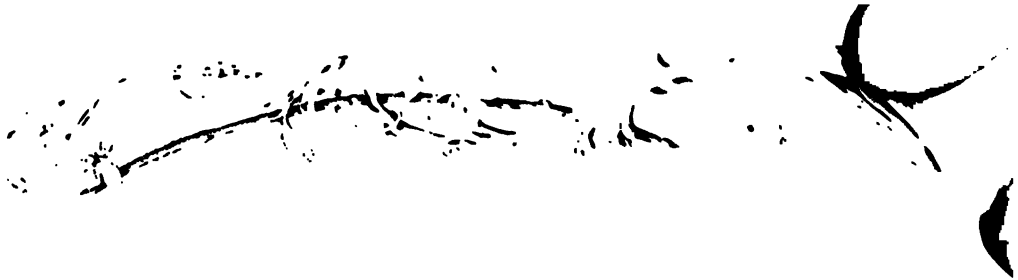


MY FIRST VOYAGE.

A Book for Youth.

BY

WILLIAM STONES.

ILLUSTRATED BY E. ROFFE.

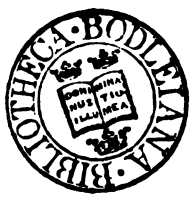
"*If* you will have a young man to put his travels into a little room, and in short time to gather much, this you must do: first, as was said, he must have some entrance into the language before he goeth; then he must have such a servant or tutor as knoweth the country, as was likewise said; let him carry with him also some card, or book, describing the country where he travelleth, which will be a good key to his inquiry; let him also keep a diary."—*Bacon.*

LONDON:

SIMPKIN, MARSHALL & CO.

1858.

203. d. 173.


BIBLIOTHECA·BODLEIANA·

PREFACE.

With pleasant recollections of the Author's fellow-voyagers:—

Whether, as some, they have since manfully fought the battle of life, and having acquired power and repute, are now moulding the destinies of future empires;—

Or, as some, are laboriously toiling among the heathen, teaching the pure truths of Christianity, and living its bright exemplars;—

Or, as others, have passed away, leaving on the mind a tranquil image of their existence, as the memory of a happy dream:—

In honor of the sea he loves;—

To present, as in a phantasmagory, to dwellers at home, by their own firesides, pictures of the world beneath their feet;—

That youthful sea travellers may know the ways of Ocean;—

Is this small book written.

The little bark being thus launched, may the favouring gale of public approval waft it gently onward down the stream of time.

CONTENTS.

	CHA
The Departure	1
The Voyage	2
At Sea—The Captain's Story—Whaling	3
At Sea—The First Officer's Lesson—Signals	4
At Sea—Sunday—The Sermon	5
America—Brazil—Rio de Janeiro	6
At Sea—The Doctor's Lecture—The Philosophy of a Sea Voyage	7
Africa—The Cape of Good Hope	8
At Sea—The Second Officer's Sketches—Vessels of all Times	9
The Desolate Island—St. Paul	10
At Sea—The Artist's Ocean Thoughts	11
Van Dieman's Land—Tasmania	12
Australia—New South Wales—Port Phillip—Gold	13
New Zealand—The Inland Journey	14
New Zealand—The Treaty—The Feast	15
Old Times—Heathendom	16
New Times—The Missionary	17

THE TOWER OF LONDON.

CHAPTER I.

THE DEPARTURE.

"Tower'd cities please us then,
And the busy hum of men."—MILTON.

IN a small court, leading from the principal thoroughfare of the City of London, still stands one of those ancient mansions, so many of which have of late been ruthlessly pulled down for the opening out of new streets.

The dining hall, reached by a broad oak staircase, with massive carved balustrades, and once the scene of many a gay festivity in the days of its former occupier, a princely merchant of the olden time, has been for many years converted into a shipbroker's office; and therein, early in the autumn of 18—, might have been seen numerous assistants, inscribing the many papers relating to argosies abroad.

Sailors and officers engaging to serve on board various ships, captains of vessels waiting for orders, and merchants' clerks impatiently demanding their bills of lading, and inquiring when the letter-bag would close, thronged the room; while groups of passengers, mostly from the rural districts, unheeded by the busy officials, gazed listlessly around the spacious apartment, whose chief adornments consisted of plans of cabins and large staring placards, setting forth that on certain days the good ships White Squall, Red Rover, and Washington, would sail for the ports of Bombay, Sydney, and New York respectively. One relic only of the bygone splendour of the room remained, in the form of a noble marble chimney-piece, in the delicate chisellings of whose elaborate tracery the accumulated dust of long years slept in unmolested repose.

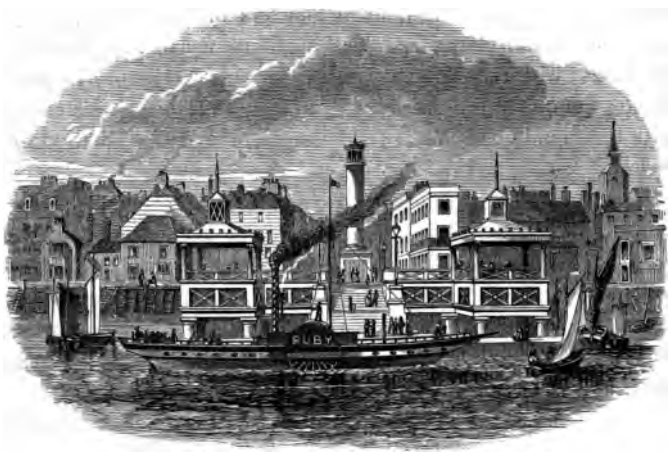
At length the head clerk of the establishment announced, with great emphasis, that the Petrel would positively leave the docks on the next day, the 18th, and Gravesend on the 20th; the effect of which statement upon the strained patience of the passengers was as the release of a spring; and after a few hurried sentences the crowd withdrew from the office, some to the ship, some to their comfortless temporary lodgings, others to make last purchases of sundry small articles for the voyage.

That evening's post conveyed to all parts of the country farewell words from many a loving daughter and stalwart son, whose great brave heart thought it no weakness to blur a mother's letter with a tear.

A tinge of regret accompanied the last look at various objects which had now become familiar to the passengers in their weary wanderings between the bustling docks and the thronged city. The tower, with its old armories, stores of modern trophies, antique warders, and grim shadowy recollections, the sluggish moat, the dim oil lamps glimmering in the quiet darkness, disturbed only by the measured tread of the watchful sentinels, and at that period its real living lions, boa constrictors, and agile monkeys;

the grave, self-sufficient Mint, retiring within its guarded gates and iron barriers to perform its mighty office of coiner to the realm;—the gloomy India warehouses, through whose lofty portals the passer-by observed the toiling workmen all adust with indigo;—the venerable old church of St. Helen's, with mottoed porch, "Worship the Lord in the beauty of holiness," standing in an oasis of grass and trees; a kindly, fresh, though hoary relic of past ages, amidst a modern desert of bricks and mortar;—the India House itself, with its long, narrow, dark passages, and curious museum, suggestive of the mysterious secrecy of the gorgeous east.

Ramblers on the pier at Gravesend, on the bright clear still morning of the 20th, observed two distinct classes of passengers disembark from one of the smartly-painted steamers plying on



GRAVESEND.

the silent highway of Father Thames. The merry, lightly clad and lighter hearted visitors tripping on shore, intent upon the joyous pleasures of the day; others, with sober thought on their

brows, and by the weight of unseasonable clothing they toiled under, evidencing that the limits of their travels had not been arrived at. These latter were instantly surrounded by bawling watermen officiously tendering their services to convey voyagers to their ships.

Amphibious Gravesend, whose chief intercourse with the great metropolis in our earlier days was by sailing hoys of pleasant memory; afterwards, for twenty years, by numerous fleets of swift and crowded steam vessels, which in their turn have for the most part given place to those overwhelming competitors, the railways, of which two now link with bonds of iron the modern Babylon to its twenty miles distant outskirt;—well known to all visitors for its narrow streets, emerging from the muddy bank of the dingy shore, and struggling upwards towards the far-famed Windmill-hill. A much changed place, but in all change ever affluent in stores of fish, huge quarters of beef, and piles of vegetables, sea bedding and clothing, and marine appliances of all kinds; with refreshment houses, redolent of savory smoking viands, tempting the sturdy seaman, and contesting his choice with the liquid good cheer of the "Admiral Benbow" and "Lord Nelson."

Yearly did thousands of pallid children watch the gay steamers as they darted past the busy wharves of London, and panted with hope for the promised trip to pic-nic on the then verdant hill, where never failing gipsies allotted liberal fortunes to thousands, but never realized their own; and then to tea and shrimps in a quiet cottage parlour, at the solicitation of some clean-aproned damsel.

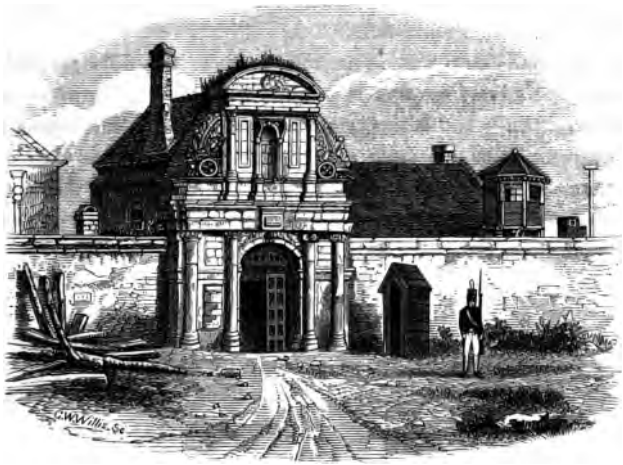
Highly cultivated fields, interspersed with farm homesteads and picturesque hop grounds, where in full force, throngs of merry pickers, collecting the fragrant bitter, with nimble fingers stripped the teeming bines, poured their rich pictures upon the eye; while far to the east, south, and west ranged the beauteous hills of Kent, crowned with woods and copses, whence gush forth streams

of rich melody from heaven's choristers, tuning their merry throats, —the evening song of the nightingale, and the morning call of the cuckoo, sinking deep into the soul of the deck-pacing mariner.

"O blithe new comer! I have heard,
I hear thee and rejoice;
O cuckoo! shall I call thee bird,
Or but a wandering voice."

Northward, the broad peaceful meads of Essex, dotted with innumerable lowing cattle, stretched many a mile, the stubble fields telling of waving corn well housed; the Thames as a silver cord binding, yet ever separating, the two counties; while scattered over the river, moving and at rest, were emigrant ships and fishing boats, yachts, timber vessels and troop ships, Indiamen and colliers; the flags of all nations fluttering in the breeze.

On the opposite bank stands old Saxon Tilbury (Tilia, a hus-



THE OLD GATE OF TILBURY FORT.

bandman; or Tigel, a tile; and burgh a town; being one of the earliest tiled cities in England. Tilbury was also the seat of

Ceadda, a London bishop, who converted the East Saxons to Christianity, in the seventh century,) celebrated in history as being the spot where the maiden Queen Elizabeth, and the gay and renowned Earl of Leicester, reviewed the English troops assembled to repel the threatened invasion of the Spanish Armada.

Our noble ship lay at anchor in mid-channel, as a racehorse held by the bridle, her cumbered decks being rapidly cleared by the crew, who seemed to have a magic power of packing away an endless supply of baggage in what appeared an already full hold.

Meantime inquisitive friends were reporting to passengers the result of their inspection of the vessel; commenting upon the abundance of the poultry, and the smallness of the pigs, hazarding an opinion, unaware of seamen's resources, that no one could milk the cow in that mere box; and declaring it impossible that so many sheep could live in such a small boat; wondering where so much luggage would be deposited, how we should all be fed, and fearing lest water should fail.

In one small cabin was an anxious mother, carefully arranging her only son's bed; another resounded with the smart strokes of a hammer, as nails and hooks were being driven into the beams for the suspension of all sorts of articles of sea convenience; the occupants of others were adjusting, altering, and finally fixing the position of boxes and drawers, ingeniously contriving how least to trench upon the

"Cabin'd, cribbed, confined"

space.

Among the intending voyagers was a minister, who had been accompanied thus far by his friends; and, with emotion, many present joined in solemn prayer and the parting hymn.

"How are thy servants blest, O Lord!
How sure is their defence!
Eternal wisdom is their guide,
Their help Omnipotence.

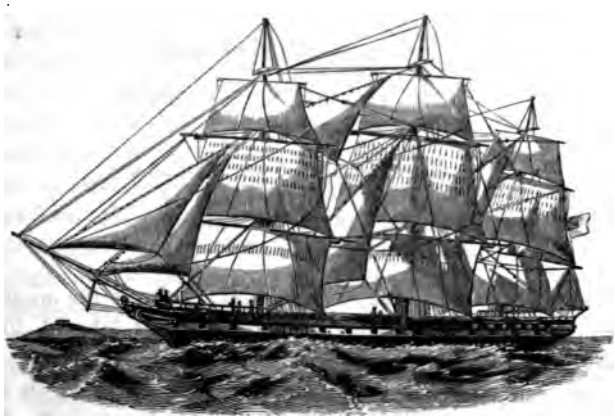
When by the dreadful tempest borne
High on the broken wave,
They know thou art not slow to hear,
Nor impotent to save.

The storm is laid, the winds retire,
Obedient to thy will;
The sea that roars at thy command,
At thy command is still.

In midst of dangers, fears, and deaths,
Thy goodness we'll adore;
We'll praise thee for thy mercies past,
And humbly hope for more."

Rapidly followed the short click, click, click, of the windlass; the heavy clank of the cable as it slowly trailed inboard, like a giant snake made prisoner; the solid decisive orders of the pilot; the song and chorus of the seamen as they hauled the sheets home to the yards; the long strained look towards friends on shore and in boats, the last wave of hat and kerchief, and the Petrel

"Walked the water as a thing of life."



THE PETREL.

CHAPTER II.

THE VOYAGE.

"Over the sea, over the sea,
List, what a bonnie bird whisper'd to me."—SONG.

THE breeze blew fresh and fair, and the bright sunlight danced upon the shimmering water; and as we sailed down the channel, the villages dotting the verdant hills and valleys of Old England receded from view, and in the crisp autumn air the coast line stood out clear and well defined, the chalk cliffs sparkling brightly as a jewelled coronet on ocean's brow.

The bearings of Start Point were taken and duly registered in the log-book, and the men being divided into their respective watches the Petrel sped swiftly on her way, a tear rushing to

many an eye as it glanced towards the dim fading island home of our childhood—

"That precious gem set in the silver sea."

The wind strengthened, and the hushing gurgle of the spray brushed up by the vessel gently turning aside the water under her bows, rose into a surging swell as the increasing impetus of the ship's way gave a larger and larger curve to the parted sea; and the wind grew stronger, and yet stronger, and one after another the sails were furled, and the entries on the log-slate told of increasing wind, strong wind, blowing hard, and heavy gales.

The stormy wind and raging sea contended in grim battle for the possession of the good ship; the lightnings darted down in fierce forky tongues, and the turbulent thunder rolled in distracting roar, volley after volley crashing overhead; the invisible spirits of the air whirred and whizzed and howled through the rigging, and the dense riven clouds charged furiously through the sky over the pale face of the moon, while at fearful speed the Petrel scudded before the driving blast.

Now we rushed up the huge swell and anon drove down into the deep sea valley, the masts rocked and swayed, and the hull of the vessel rolled heavily from side to side; few human sounds were heard, save that the vigilant officer of the watch, firmly, in short sentences, warned the steersmen to starboard, steady, port, or port-hard, as might be necessary to keep the ship straight before the wind, lest the heavy sea should strike her on the quarter, and cause the gallant bark to broach to; and the helmsmen as with strained muscles they grasped and moved the wheel, echoed the directions, steady, hard-a-port, Sir. And with all care a foaming sea would occasionally roll over the stern, and rushing forward, flood the decks, pouring out in torrents through the scupper holes.

* * * * *

The wild waves were hushed into quietude, and there was a

dead calm, not a ripple disturbed the glassy pool ; the ship lifted and sank slowly on the heaving bosom of the sea, the sails fell flat, the little vane at the mast-head was motionless, the ensign at the peak hung in folds and could not be unfurled, and idly was the time spent in whistling and wishing for a breeze; and the sailors were gloomy, for the unheeding passengers had been decoying and making captives of some of those seamen's genii of good weather, Mother Carey's chickens, as they fluttered about the ship, passing and repassing under the stern, running along the waves, just touching the surface with their claws.

"And I had done a hellish thing,
And it would work 'em woe."

"A storm after this," muttered the helmsman, as he watched the birds being caught; "if they (the offending passengers) had to go out to the weather earing when we are reefing, or to stow top-gallant sails when it is blowing hard, they would aloft remember all this. What harm have the pretty birds done to them?"

Towards evening puffy breaths of air were felt, and they were adverse; and the puffs gathered into heavy squalls, under which the ship staggered and lay over on her side; and as the storm increased the Petrel laboured sore, and pitched heavily, buffeting the stout waves with her strong bows, and from mainroyalmast head to keel every timber and rope trembled, creaked, and groaned; and the thoughtful captain fearing that by longer contention with the violent gale, damage might be sustained by his good ship, hove to, and the vessel drifted before the wind, rising, diving, and receding in large curves upon the big waves; and we sympathized with the Petrel in her ease.

* * * * *

Small jokes were played; as that upon the old lady of seventy, who being told that we were approaching the line, was particularly anxious to see it; and being informed that the Petrel would cross it in the night, inquired of the chief officer (because she

knew he would not deceive her), whether the line was not a wood fence, with gates at intervals, to allow of ships passing; and he seriously answered yes, and if she would look through his telescope she should see the line. She could not see anything, she said, whereupon he proposed to assist her in holding the telescope. In doing so he stretched a twine across the glass, and she was quite satisfied she had seen the line, at the gates of which he said we should arrive about midnight.

And pigs fell overboard and were recovered, and a robust good tempered apprentice had the same misfortune.

The cry was instantly raised, "Overboard, overboard," but who was in that predicament did not immediately appear. One gentleman vociferated the names of his two pet dogs to see if they were safe; and the mother of a large family hurriedly totalled up her progeny, anxious to ascertain that it was not one of her children. "It's Charley," said the chief officer, and shouted at the top of his voice, "Swim away my boy," waving his cap to encourage the lad, while his young fellow apprentice ran sobbing and crying about the deck, fearing lest his companion would perish before the boat could reach him.

Meantime the captain had given orders to back the mainyard, that the ship's way might be stopped; and "Man the quarter-boat," he cried, and speedily four stout men, with the second-officer, were on the sea, pulling vigorously towards the boy. The next few minutes were passed in intense anxiety, and every eye was directed to the small receding speck on the water. They are near him; if he only keep up a minute longer they will have him. God defend him from sharks! They are waving to him, they have got him, they pull him in, they cheer, we respond, we breathe, he is safe; and the boat rowed back to the ship.

With an invigorating glass of brandy, and an emphatic caution from the sententious fatherly commander, the lad was dismissed to change his clothes. He remarked to an enquiring passenger,

that when he saw the mainsail laid to the mast, he knew we were stopping for him and would send a boat; his only dread was that a shark might seize him before the boat came; and in reply to an expressed fear that he must have imbibed a disagreeable quantity of salt water, he naively added, "I was taught to swim with my mouth shut."

The dripping lad sat down upon his sea-chest to mend his dry clothes; for, with the carelessness of a sailor, one of his fixed principles was, that it was soon enough to repair rents when the torn article was required for wear.

* * * * *

Little accidents of births occurred, and discussions whether the newly born belonged to Stepney parish; and ripening friendships promising to end in marriage, and arguments on the law of sea-weddings; and brief quarrels threatening to result in duels on shore—all forgotten at the termination of the voyage, when we parted with endless recollections vowed, and strong good will.

Scraps of poetry, short romances, latest intelligence, &c. were daily found in Neptune's post-box, and read at our dessert, amid laughter, merry criticisms, and wonder at the assumed unknown authors who thus helped us to pass away the monotonous days; and reading, music, song, and games aided to while away our evenings.

Daily the golden sun rose out of the burnished fiery sea, and every evening, as it descended in the western sky, the heavens were lighted up with gorgeous hues of purple, green, and gold, blue and orange, mingling and contrasting with wondrous effects; and the fleecy clouds took strange fantastic forms, and fancy revelled in the figures of dragons and horsemen, turretted castles, quaint old gables, lawns, parks, antlered deer, and feeding flocks.

We watched the vivid flashings of the harmless sheet lightnings darting, playing, and chasing one another, then hiding,

dashing, and gambolling between cloud and cloud, backwards and forwards, as heaven's children at play.

On the still evenings we gazed upwards, admiring the stars as they rained their myriad lights upon us, Arcturus, Orion, the Southern Cross, and the Magellan clouds, and involuntarily our choicest voices burst out in the noble strains of Haydn's fine chorus,

"The heavens are telling the glory of God."

and we looked downwards upon the phosphorescence of the water at the side, stern, or bows of the ship, as we coursed through the waves, for we seemed voyaging between two glorious heavens; and brilliant and lovely as were the stars above,

"With scarce inferior lustre gleamed the sea,
Whose waves were spangled with phosphoric fire;
As though the lightnings there had spent their shafts,
And left the fragments glittering on the field."

We told one another of our past histories, and discoursed of future projects as we paced the deck in the intense starlight of the tropics.

Porpoises were grained, and albatrosses caught, and the elegant nautilus and buoyant Portuguese men-of-war were seen; and now and then we passed a sleepy whale, or were passed by a school of snorting grampuses. Occasionally shoals of flying fish would start from the water like sparrows from a hedge, not in fear, as some suppose, for chasing enemies were not observable; rather it seemed an act of joy, as the frisking of a lamb or the gallop of a horse let loose in a field, or the grotesque rollicking gambols of an ass on a common, from mere exuberance of life; and some leaped on board and were cooked and pronounced capital eating.

There were red letter days in the ship's calendar, days of note; Christmas Day, our captain's birthday, crossing the line day, St.

Andrew's day, and the day of sighting the land, when with loud hurrahs, and three times three, we hailed "land ho!" and our Sundays; all joyous days, distinguished by their champagne, bubbling and sparkling, and plum-puddings of large dimensions, in addition to our usual good and ample provisions; and every Saturday evening, with hearty, true, sailor custom, we drank the toast, "Sweethearts and Wives."

We had our time of dread, during which, at arm's-length for hours, we confronted black death; for on that day we had mysteriously partaken of a subtle poison with our morning meal, and before its invisible malignant power, old and young, hale and weakly, one by one succumbed.

The chief officer, in his strong manhood, rolled on his bed in agony; others sat upon deck, gazing in silence upon the blanched features and liquid fishy eyes of their companions.

The black steward exclaimed that he felt "berry funny;" and the cabin-boy, through his convulsive hiccups, gasped out that he thought he was dying.

The helmsman could not take his trick at the wheel, for in anguish he was writhing in his bunk in the forecastle.

Some reclined upon the poop in quiet resignation, awaiting the issue of that dreamy listlessness and indifference to life which crept over us; while others were conducted to their cabins, where, in speechless idiotic stupor, they passed the weary hours.

At the saloon dinner-table sixteen vacant seats told their own sad tale on that memorable day of despair, whose mystery has never been unravelled.

* * * * *

And we realized the truth of Lamartine's thought, that travellers live many lives. A new port being approached with all the hopes, fears, and uncertainties of youth; during our stay we make acquaintances and form attachments, some place or person becomes part of our being, rooting with minute fibrillæ into the affections, as a ship nestles into its quicksand bed, and dwells

unseen deep down therein for evermore; we leave, and in departing, gaze with strained eye towards lessening spire and tower with the last silent look of a friend; and what more is death than this?

To beguile the time and increase our mutual pleasure we had weekly assemblies, at which each contributed to the information and amusement of the whole company; with what result some of the succeeding chapters may partially disclose.

SCARBOROUGH.

CHAPTER III.

AT SEA—THE CAPTAIN'S STORY—WHALING.

"And God created great whales."
BIBLE, *English version.*

"IT was in my native town of Scarborough," said the captain, "that I imbibed the elements of learning, at the knee of an ancient matron; who, in consideration of a small weekly stipend, introduced eighteen alumni through the mysterious portals of the temple of knowledge; six received their lessons simultaneously, the other twelve, divided into two brigades, being employed in the meantime in the intellectual operation of mangling, half tugging at the rope fastened to one end of the loaded box which constituted the pressing machine, and six thrusting at the opposite end; and this system of industrial education she justified on the principle that—

"Satan finds some mischief still
For idle hands to do."

When the day had passed satisfactorily, a handful of sweetmeats would emerge from the capacious pocket of the venerable dame for distribution amongst the laughing youngsters; and often on the bright long summer days our studies and mangling gave place to a walk around the Castle Hill, or on the fine open sandy beach, or to Oliver's Mount, where our ancient friend, gathering us about her, would pour into our wondering minds strange tales of the old castle, built many hundreds of years ago; of Gaveston, King Edward's favourite, who was starved out of the strong place and obliged to surrender; of the curious Pilgrimage of Grace, in the reign of great King Henry, on which occasion a large army of enthusiasts, preceded by priests, carrying crosses, and banners bearing devices of crucifixes, and the name of Jesus on them, had in vain striven to drive out the governor and his troops; of the siege of the grey old towers by Cromwell, to whose all-conquering sturdy troopers the partisans of King Charles opened the gates; and in these latest wars she told us her ancestors had borne their part. Outgrowing the limits of her sphere, the next educational functionary whose care I underwent was so much more interested in the discussion of politics at the "Bear and Ragged Staff" than in the performance of his scholastic duties, that my progress would have been small, even had death not clipped the thread of my father's life; whenceforward a rough-hewn, but good-natured uncle undertook to induct me into the duties of a sea-life, and began his instructions by boxing my ears whenever I manifested symptoms of sickness, to divert attention from the stomach, or, as he nautically termed it, give me another "point of departure."

My sea career was soon temporarily suspended; for, as on one occasion, we were beating down the English channel, our ship deeply laden with coals, we incautiously stood over too near to the French coast, were chased by a fast-sailing privateer, the ship taken, and the crew made prisoners.

At first my boyish alarm was great, but the many kindnesses

received from the ladies connected with the prison offi
speedily re-assured me.

During our captivity the senior officers instructed the you
of the crew, and thus my general and professional education
greatly advantaged by this compulsory residence on shore.

Two long years were spent in exile, during which, althc
scantily clothed, almost shoeless and indifferently fed, we
formed many a weary march from prison to prison, the plac
our confinement being continually changed. The dark-
daughters of France, compassionating our forlorn condition
refreshed us with bowls of milk and rosy apples, accompa
with sympathetic utterings: "Pauvres mâtelots Anglais, pau
garçons Anglais." At the expiration of this period, on
occasion of a cartel or exchange of prisoners we were liber
and in the course of my after wanderings I visited most of
bustling crowded ports of England, the burning West I
islands, with their swarthy negro labourers; the magnificent
sprinkled harbour of Rio de Janeiro, the hot City of Pal
Calcutta, the low sandy shores of Africa, the timber port
Canada, and experienced the stormy seas and rough weathe
an Archangel voyage late in the season; at length I began
whale fishing life, and made the beautiful port of Sydney
resting place when not cruising in my vessel, watching
monsters of the deep. Respecting these gigantic beings of wl
so little is known I will now give you such information as m
whaling voyages have enabled me to accumulate.

The great whale fishery may be divided into two sectior
the object of chace being in one case the sperm whale, and in
other the black, common, or Arctic whale, and in explaining
difference I will commence with the sperm whale.

The sperm whale (physeter macrocephalus) inhabits the
ocean of both eastern and western hemispheres, but abounds
in the warm seas of the globe. These swimming beasts so
times attain to the length of eighty feet; the head, which is ne
one-third of the whole length of the body, being from eigh

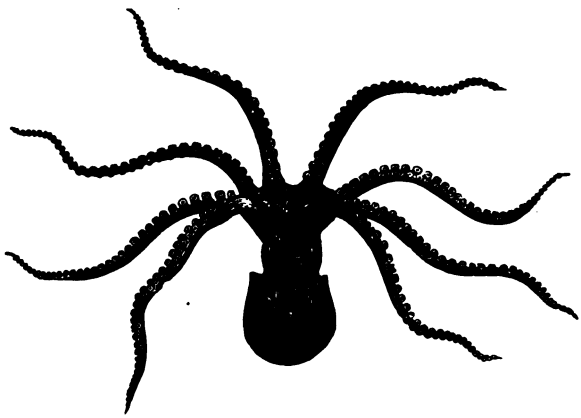
nine feet in depth, and from five to six feet broad, and the circumference of the body about thirty-six feet. The sperm whale has a roundish tubercle in front over the eyes, called the bunch, and a rounded lump of fat behind, called the hump, continuing

THE SPERM WHALE.

in a ridge to the tail. The males are larger than the females. Naturalists class whales with mammalia; all the order of cetacea, or whales, breathing in the same manner as do land mammalia, by means of lungs, and not by gills as fishes. The ordinary passage of the air is through the nose (the human species alone breathe through the mouth), and the membranous portion of this organ forms one canal, but in the bony part in most animals it is divided into two; in the sperm whale, however, there is only one orifice, and what is termed the spout is formed by the expired air being forcibly ejected through this blowhole. A large whale will make sixty or seventy respirations during the time it remains above the surface of the water, a period of about ten minutes, and the aeration of the blood thus effected is sufficient to allow of its existing under water nearly an hour. Whales also suckle their young like land mammalia.

The heart is very large, and the aorta or vessel conveying the blood of the whale from the heart is sometimes twelve inches in diameter, propelling forward ten or twelve gallons at a stroke. The roof of the mouth, the tongue, and teeth, are white, and glisten in the water, and the throat of the full-grown sperm whale is sufficiently large to allow of the passage of a man; the lower jaw only is furnished with teeth, and such may sometimes be seen exhibited in shop-windows covered with ornamental carvings, executed by sailors for amusement. The upper-jaw has sockets

or excavations for the reception of these lower teeth when the mouth is closed. Although sperm whales occasionally consume other fish they feed principally upon the sepia octopus, cuttle fish, or squid, as seamen term it; and this food is so nutritious



THE SEPIA OCTOPUS—CUTTLE FISH TRIBE.

as to enable the whale to deposit a layer of fat beneath the skin from eight to fourteen inches in thickness, which fat renders the animal buoyant, and preserves its warmth, and hence is not inaptly termed the blanket by whalers. In the interior and upper part of the head is a large cavity containing from 200 to 500 gallons of a thin oil, lighter than water, called "head matter," concreting after death into a granulated substance. Placed in hair bags, submitted to strong pressure, melted and boiled with a weak solution of potash and in alcohol, then cast into moulds, this head matter becomes the crystalline substance known as spermaceti.

When unmolested, the sperm whale travels at the leisurely pace of about four miles an hour, being propelled by the tail, which, in all animals of the whale order, is horizontal; but if alarmed or wounded it urges its way through the water at a speed

of twenty miles an hour, with a peculiar surging motion, or what sailors call going "head out." This horizontal position, together with the great size of the tail enable the whale to rise and descend through the water with ease and rapidity.

The sperm whale is noted for a peculiar action called breaching: the animal in its rapid ascent from the deep sea can impart to its huge bulk an impetus sufficient to project the body almost out of the water, but whether this is done to shake off adhering parasites, or in sport, has not been satisfactorily ascertained.

On the look-out man at the mast-head perceiving the blowing of a whale, he announces the fact to those on deck, by crying out "There she spouts!" and this arousing call creates intense excitement. "Where away?" shouts the officer of the watch, and the direction being indicated, the boats are instantly lowered, and putting forth all their strength the men row towards the animal with great speed and caution. The boats are about twenty-seven feet long, sharp at both ends; in one end is fitted a short block or stump, the loggerhead, around which the line is turned when the harpoon has been made fast to a whale. A boat's crew consists of six persons—four rowers, a headsman and a steerer; the headsman pulls the fifth or bow-oar until the whale is approached, then rising from his seat he darts the harpoon with all his power into the floating animal, and immediately changes places with the boat-steerer, whose duty it is to pierce the whale with lances.

The whale, on being wounded, sounds or descends to a great depth, carrying with him the harpoon, and drawing after him a strong small rope or line attached to the instrument, and which is allowed to run out from the tubs in the bottom of the boat wherein it lays in regular coils, and sometimes more than two miles of line will be thus expended. On rising to the surface to breathe the whale is again attacked with lances, until exhausted by the loss of blood, which is frequently thrown up from the blowhole, the infuriated animal no longer having the strength to

descend, swims about violently on the surface, and tracing dark crimson curves in the water, doth

> "The multitudinous seas incarnadine,
> Making the green one red,"

and lashing the sea into foam, and rolling over and over in the intensity of his agony, eventually turns upon his side and dies.

With an instrument termed a spade the fat, blanket, or blubber is cut into long strips, two or three feet broad, round and round the animal, and the fat being melted and boiled in proper vessels, termed "try-pots," the oil is stored away in casks, the scraps or crisp membranous portions being used as fuel. The matter obtained from the head cavity, the case, forms the spermaceti of commerce.

THE ARCTIC, OR BLACK WHALE.

This species (Balena mysticetus) has not the clumsy appearance of the sperm whale, for although measuring sixty feet in length, the head of the black whale is proportionally much smaller than that of the sperm species.

It possesses two blowers situated far back on the head, each blower or spout being covered with a valve; the gullet is small, as also are the eyes, which are placed near the angle of the mouth.

This species is principally found in the colder seas, although it is not unfrequently met with in warm latitudes.

The female is larger than the male.

The Arctic whale has no teeth in either jaw, but it possesses a

curious substitute; the upper jaw, which is narrow, being furnished with horny laminæ descending from the palate, and varying in proportional breadth and length in the different varieties; and the purpose of this apparatus is to form an efficient strainer for the small marine animals, which constitute its food; scooping up a large quantity into its mouth by means of the large lower jaw, they are entrapped and retained by its being closed, the water exuding through the fringes of the whalebone plates. The largest pieces of whalebone sometimes measure thirteen feet in length, and the number of pieces varies from 500 to 600.

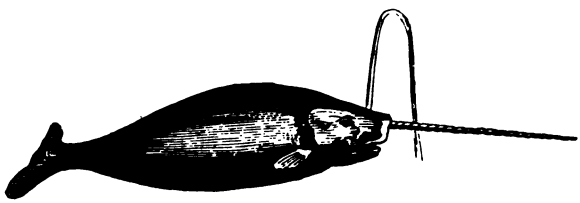
The article of whalebone, so well known in commerce, is applied to purposes in which lightness and elasticity are desirable, as whip-handles, walking-sticks, umbrella-rods, and ladies' stays. The oil of the black whale, common or train oil, is not more than one-fourth the value of sperm oil. The European mode of catching this kind of whale is similar to that adopted in the sperm fishery, already described; amongst the Esquimaux, however, the mode of killing these northern whales is rather peculiar.

Manning a large boat, a chosen man of the tribe is appointed harpooner, a number of small canoes, with one man in each, being in attendance. Selecting his prey, the harpooner drives his weapon into the animal; an inflated seal skin attached to the other end of the harpoon, acting as a drag upon the whale, tends to exhaust its strength. Chased and harassed by the men in the small canoes armed with similar instruments, the wounded whale is at last exhausted, and dies from loss of blood.

A successful harpooner is honoured, after the day's sport, with a blue line drawn across the face over the bridge of the nose, and with great rejoicings the tribe feasts upon the spoil.

Amongst the inhabitants of the arctic seas I ought to mention the narwhal, known also as the sea unicorn; this species of cetacea possessing that famous horn which figures on the forehead of the heraldic unicorn, a supporter in the arms of England. Although the narwhal is not now met with on the English coast, yet from

its numerous fossil remains found in the geological formation, called the Suffolk crag, it appears that England has more right



THE NARWHAL.

to assume this primeval animal in its arms than is generally supposed.

The teeth of many animals take the form of tusks, these in the narwhal are reduced to a single tooth, and the growth of even this one tooth is restricted to the male animal: the right tusk is found in quite a rudimentary state, the left one only being developed. It seems to be intended for defence, and is implanted about fourteen inches in the socket, tapering gradually from the base to the apex, and sometimes measuring ten feet in length and four inches in diameter at the exit from the nose. The exterior of this long horn is spirally striated, the ridges winding from within, forwards, upwards, and to the left.

The narwhal is generally from twenty to thirty feet long, and the tail, as in other species of the whale tribe, is horizontal.

I will finish this story of whales and whaling by narrating an adventure which nearly cost me my life. Having cruised on my last voyage for some time without my usual success, I bore up for Torres Straits, believing that the sperm whales having been harassed in the open Pacific, had sought quietude amongst the Indian islands.

Anchoring in a deep sheltered cove, at the head of which a sparkling stream tracked its joyous way through dense groves of palms, whose outer shadows bathed in the transparent sea, we lay

there some time replenishing our stock of fresh water, and bartering knives, prints, blankets, nails, axes, saws, and other English articles for yams, pumpkins, cocoa-nuts, pigs, and poultry.

Observing one day that the canoes alongside were more numerous than before, and that no women or children were present as usual, I enjoined the officer in charge of the boat, which I despatched for the last load of fresh water, to keep his attention directed to the ship, and should the ensign be run up, to return instantly.

Shortly after the boat's departure I noticed that my black acquaintances were holding a consultation, and my suspicion being excited, I directed the ensign to be hoisted; the sharp eyes of the islanders quickly detected the responding movement of the boat, and judging that the time for the attack had come while we were divided, they rose upon the crew; I was myself surrounded and felled to the deck with a club, stunned and left for dead.

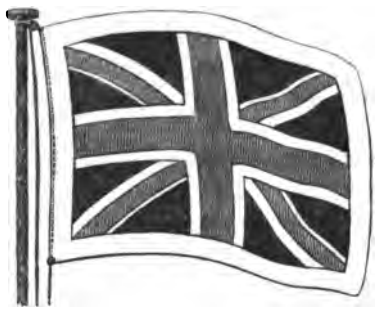
On recovering my senses I learnt that for the saving of our lives we were indebted to one of the men who had the presence of mind, on the instant of the attack, to jump below and cut the cords by which two English dogs were tied to prevent injury to the natives, with whom I was desirous of trading.

In a moment, urged on by the sailor, the two dogs bounded upon deck biting many of the blacks, frightening all; some hastily retreated over the side into the canoes, the rest leaped into the water and swam to the shore.

The ship being thus cleared we immediately weighed anchor, and set all sail, keeping at sea until recovered from our wounds, and ended by making a successful voyage.

Having been absent from the mother country many years, I returned to visit my native land once more, sold my oil profitably, and am now owner and commander of the good ship Petrel.

"Behold the marks of this fray," said the captain, and raising the hair which covered the wound, disclosed a broad deep scar more than two inches in length.



UNION JACK OF THE MERCHANT SERVICE.

CHAPTER IV.

AT SEA.—THE FIRST OFFICER'S LESSON.—SIGNALS.

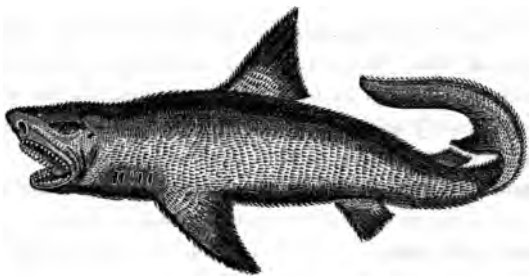
"England expects every man to do his duty."
Nelson's last signal.

THE vessel drifted as a straw upon the waters; the moisture of the night which had settled upon her as a profuse perspiration, rapidly disappeared before the rising sun, and a hot dryness succeeded.

Sleepless with the heat, the passengers rose at dawn, to watch the sun emerge from the sea, and pacing the deck barefoot, participated in the coolness induced by the customary early deck washing.

The grateful bath followed, amidst which luxurious enjoyment the adventurous overside swimmers were suddenly deterred from their indulgence by a shout from the maintop to look out on the starboard side; instantly all eyes were turned in the direction mentioned, where lo, at about twenty yards distance the back fin of a steadily approaching shark was observed above the surface of the water.

All was now excitement, and in a few moments the strong thick shark-hook was exhumed from its place of deposit, with its accompanying two feet of chain (if a hempen line were used within reach of the jaws it would be easily severed), and a mass of fat



THE SHARK.

pork, three pounds in weight, being attached, the bait was thrown into the sea astern. The monster eyeing the tempting morsel slowly swam up to it and thrust it aside with his nose, then curved round and receded; a flicker in the distance showed that the hungry brute had turned; he again approached the bait which he once more pushed away, then retreated as before; another flip of the silvery ocean told us that the temptation of the bait had overcome his caution, and the hated fish turning upon his side greedily swallowed the hook, bait, and part of the chain, the beauteous pilot fish which accompany the shark, hovering over its head as so many guiding spirits, hurrying hither and thither in consternation at his convulsive writhing.

Contrary to the advice of the seamen, the passengers, delighted with the success of the experiment, instantly hauled up the infuriated fish to the stern, not mindful of the difficulty which still existed of getting the bulky body inboard, even when the head had been raised to the height of the taffrail.

The difficulty did not exist long, for with a stroke of his tail, which broke the cabin windows, aided by a violent effort of the

muscular jaws, and jerk of the body, the massive weight of the large fish, fourteen feet long, was sufficient to straighten the thick hook into the form of a large spike, and falling down into the water, he left us to watch the blood stained track as he swiftly disappeared.

Sharks were thenceforward allowed to swallow the bait, and a running noose being passed round the small of the tail and drawn tight, they were hauled up over the ship's side, and the head and tail being adroitly severed by our expert butcher, the fish were then publicly dissected.

The sun rose higher and hotter, and for a few hours daily at this period of the voyage we were shadowless beings.

For the mere sake of employment the captain worked out the longitude by observation, and daily added another to the many marks which hovering around the same spot on the chart, indicated that we had long unsuccessfully coquetted with the equator.

The children found amusement in running beyond the awning and glueing themselves to the deck with the pitch, which, bubbling and boiling, exuded from between the planks and adhered to their shoes; while the sailors looked over the bulwark out towards the horizon and whistled for a breeze.

The ship had not steerage way, the powerless rudder only trembled, and the guide chains rattled with the slow heaving of the sea; the sails hung motionless and flat, save when the undulation of the ocean, as a vast animal respiring, caused them to flap heavily against the masts and rigging.

The consolation of society remained, for twelve ships were in sight on the glassy pool, to each of which in turn the others made graceful obeisance, then slugglishly, as though tired with the effort, drifted round, indifferently presenting either stern, stem, or broadside; each was

"As idle as a painted ship
Upon a painted ocean."

The chief officer suggested a conversation with some of the neighbouring ships, and speedily the bag of flags and signals was brought upon deck and the ensign run up to the peak.

The salute was answered by the nearest ship hoisting her ensign, showing that she also was a British vessel; then certain sets of small flags were successively exhibited, inquiring "What ship is that? Where from? Whither bound? How long out, &c.?" Which being duly replied to, similar inquiries were made by the neighbouring vessel, and responded to on our part. Conversations of the like character were carried on with several of the ships within signal distance, and the intelligent chief officer in reply to the questions of the inquisitive passengers, promised that at the gossip hour of eve he would explain the nature and use of naval flags and signals.

Sundown moderated the temperature, and assembling in the saloon after tea we found it had been decorated by our chief officer with signal flags, the union jack and ensign, blue Peter and burgee being tastefully grouped together; unfortunately for the national honour the royal standard could only be represented by a common neck-kerchief belonging to one of the seamen, having this gay design printed upon it.

"I will now," said the speaker, "fulfil my promise as well as I am able, and first must refer to some historical points connected with the subject, and then will explain the differences which exist among those flags and signals now in use, and the reasons for the distinctions.

"Our good friend, the artist, has promised to tell us more about the royal standard and the history of that part of the subject than my sea-life has enabled me to become acquainted with; I will therefore confine my remarks to the flags in ordinary use."

The Union Jack and Ensign.

This national banner of England is of religious origin.

It was the practice of ancient nations to place themselves under

the protection of some saint, and St. George was the worthy adopted by England, and his banner became the national banner of the country.

Tradition, or rather perhaps conjecture, asserts that the English ensign owes its origin to the fact that the Emperor Constantine adopted a red cross on a white flag as his banner, and announced that whoever fought under this flag would always be successful; and he having been born in Britain the flag was adopted by the ancient English. Another legend states that Joseph, son of Joseph of Arimathea, introduced Christianity into Britain, and when dying drew the figure of a cross with his blood.

However it may have arisen, the Saxon banner was a plain red cross on a white ground, and whatever other flags were present this was always foremost, and the red cross is still the most conspicuous portion of our colours.

These crosses were very various in their character: that of St. George was composed of two pieces, respectively perpendicular and horizontal +; those of St. Andrew and St. Patrick were diagonal, the parts inclining from left to right and from right to left ×. Respecting the cross of St. Andrew, we are told that Achaius king of the Scots, and Hungus king of the Picts joined their forces to oppose Athelstan king of the Saxons, and addressing themselves to God and their patron, St. Andrew, as a token that they were heard, the white saltire cross upon which St. Andrew suffered martyrdom appeared in the blue firmament, which so animated them that they defeated the Saxons. After the victory they went in procession to the church where the arm of St. Andrew was kept as a relic, to thank God and the Apostle, purposing in all time coming to use on their ensigns the cross of St. Andrew, a white × cross on a blue banner.

King James the First, soon after his accession, directed that this cross of St. Andrew, the national banner of Scotland, should be united with the English red cross; and on the occasion of the Union with Ireland it was ordered by proclamation of George the

Third, dated the 1st January, 1801, that the union flag shall be, "azure, the crosses saltire of St. Andrew and St. Patrick, quarterly per saltire counterchanged argent and gules, the latter fimbriated of the second, surmounted by the cross of St. George of the third, fimbriated as the saltire," which, stripped of technicality or heraldic jargon, means that the field or ground shall be blue, superimposed by the white diagonal cross of St. Andrew; and upon that again the narrower red diagonal cross of St. Patrick, and overlaying these the erect red cross of St. George, with a white fringe or border.

It is stated in the proclamation that whereas by ancient usage the royal ensigns, flags, jacks, and pendants differ from those in use by his Majesty's subjects, to more distinctly notify and set forth the same, his Majesty by and with the advice of his privy council thereby charged upon all masters of merchant vessels to wear the ensign set out in the margin of the proclamation, viz., the red flag with the Union Jack in the upper corner, next the mast, and not to wear any other ensign nor any pendant whatsoever, nor to hoist any flags, jacks, pendants, or colours made in imitation of his Majesty's flags.

It is further directed that vessels with letters of mark or reprisals, besides the colours worn by merchant ships, shall wear a red jack with an union jack described in a *canton* at the upper corner thereof next the staff; also that such vessels as may be employed by the undermentioned government departments, viz:—Commissioners of the Navy; Ordnance; Navy Victualling Department; Customs; Excise; Transport Service; shall wear a red jack with a union jack in a canton at the upper corner thereof next the staff, and in the other part of the said jack shall be described the seal used in such of the respective offices aforesaid, by which the said ships or vessels shall be employed.

And by an act of parliament, dated 22nd May, 1834, it is enacted that the master or other person in charge of a ship on

board of which the above proclamation may be infringed shall be liable to a penalty not exceeding £500, recoverable by suits in the Admiralty Courts.

It further authorizes any officer of the royal navy to enter on board any ship, vessel, or boat, hoisting, wearing, or carrying the colours prohibited by the said proclamation, and to seize and take away the same, and the same shall thereupon become forfeited.

I may add here that an admiral carries his flag at the main-mast, a vice-admiral at the fore-mast, and a rear-admiral at the mizen-mast, and that the lord high admiral, or commissioners of the admiralty, wear a flag with the device of a white anchor on a red ground or field.

The Blue Peter

is a plain square blue flag, with a square yellow centre, and signifies that the vessel upon whose mast it is displayed is about to sail.

The Burgee

is generally a plain flag of one colour, with the ship's name in letters of another colour, as a white flag with red letters, or a red flag with white letters, according to the taste and fancy of the master or owner.

I will now, said the chief officer, give some explanation of the signals we so freely used this morning. A clear simple plan of communicating from one ship to another when weather or circumstances prevented a boat being sent out, and the distance was beyond the reach of the human voice or speaking trumpet, had long been desired, and the supplying of this want is due to the ingenuity of the novelist, Captain Frederick Marryat, who, in 1817, published the system of signals now almost universally adopted.

The flags and pendants used are seventeen, including the union jack. They are—

a. Ten flags, representing the nine numerals and cypher.

b. The union jack.

c. The first, second, and third distinguishing pendants, to be suspended over the numeral flags, or at some other mast-head, when the number indicating the name of a merchant ship is communicated.

d. The rendezvous flag, which is hoisted over the flags indicating the number of the name of a port, cape, &c.

e. Telegraph flag, to point out that the number signals below it refer to some words to be found in part 6 of the signal book.

f. Numeral pendant, or limitation flag, hoisted over the numeral flags, points out that the number does not refer to the guide or signal key, but that the numbers are to be understood in their ordinary sense, merely as numbers; thus, the numeral flags representing 21, if hoisted without this pendant, would refer to part 5 of the signal-book, but if exhibited with this pendant would indicate simply 21, and would probably be an answer to such a question as—What latitude or longitude?—or, How many days out?—How many passengers? &c.

A signal book is used in conjunction with these flags, and is divided into six parts.

1st Part. Contains a list of English men-of-war, and such ships would hoist the union jack over the number.

2nd Part. List of foreign men-of-war, which would hoist their national ensign.

3rd Part. List of names of merchant ships divided into three sections, and these would hoist the first, second, or third distinguishing pendant over the numbers, to direct attention to the particular section of the third part of the book in which the telegraphing vessel's name must be looked for.

4th Part. Lists of ports, headlands, lighthouses, &c., and when any number in this list is exhibited the chequered or rendezvous flag is hoisted above the numeral flags.

5th Part. Consists of sentences suitable for marine requirements; the numeral flags only are in this case hoisted where best seen.

6th Part. Contains a long list of single words, a kind of dictionary; and the tricoloured flag, called a telegraph flag, is in this case hoisted above the numbers referring to the word.

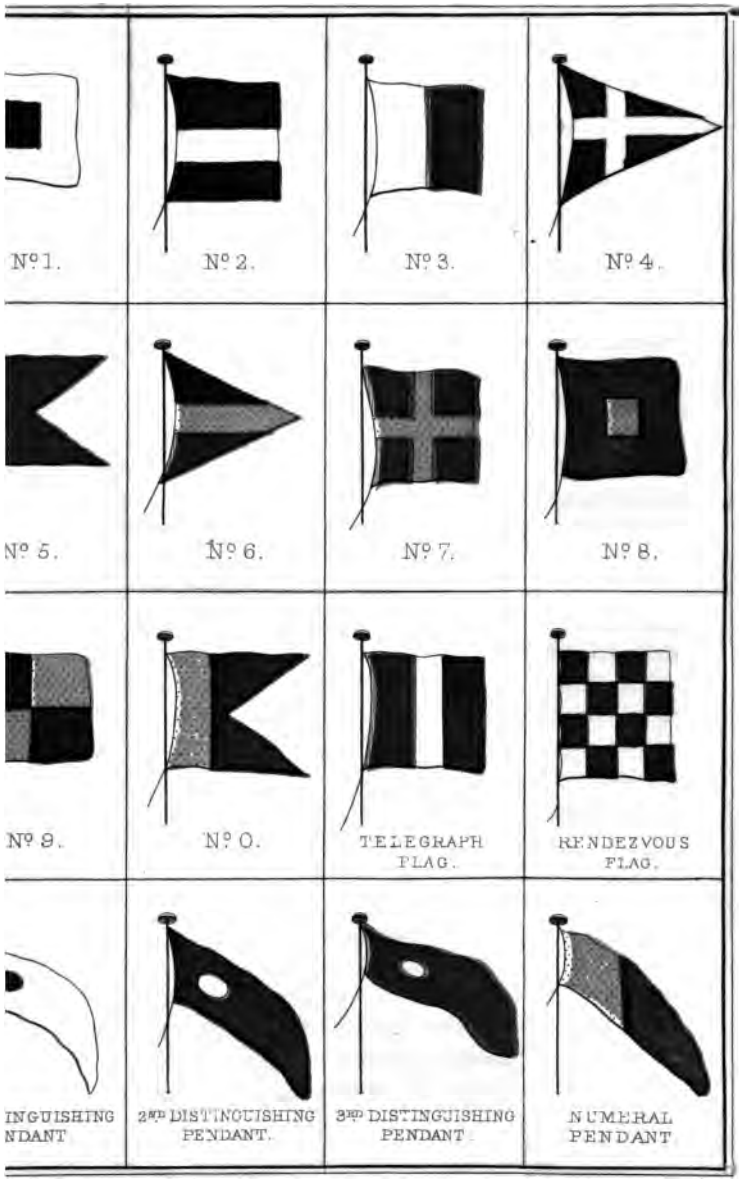
The numbers in the lists are consecutive, except that those requiring two of the same figure are omitted; thus, there are no Nos. 11, 22, &c. When, however, it is absolutely necessary to repeat the figure, as sometimes in giving the latitude, longitude, or similar statements, the repetition is indicated by hoisting the first distinguishing pendant *under* the numeral flag; and when such a number as 101 is required to be indicated, the numeral flag 1 and cypher flag are suspended, with the *second* distinguishing pendant under them, to show that the *second* above is to be understood as repeated; 111 is shown by hoisting the numeral flag 1 with the *first and second* distinguishing pendants.

The 1st distinguishing pendant by itself is affirmative; the 2nd pendant is negative; and the numeral flag by itself means attention, or about to answer. You probably observed this morning, continued the chief officer, that I first hoisted the ensign, which was replied to by our neighbour. I then looked into part 5, under "sentences," and selected the number opposite the question, What ship?

Our friend, seeing these flags, no doubt looked into his book, and against the number found the question; and to answer it inspected the list of ships in part 3, and selecting the number indicating the name of his own ship, hoisted the numeral flags with the proper pendant above, in order to tell us in which section of the book to look.

Our next question was similarly sought in part 5, Where from? to which he replied by the proper number, placing the chequered rendezvous flag above the numeral flag, from which we instantly knew, almost before the signals were up at the mast head, that it was the name of a place he was communicating, to find which it was necessary to look into part 4.

MARRYAT'S SIGNALS.



Having given the principle upon which these signals act, I must refer you to the special book on the subject for further details.

It may not be out of place here to state that on the occasion of a death or mourning we do not hoist the ensign to the top of the mast, but leave it at some distance below; this is termed "half mast" high. A ship is also put in mourning by painting a broad blue stripe all round her sides. A ship in distress wanting aid reverses her ensign, placing the union jack downwards, which may our good ship never see.

I may also, continued the officer, relate a little incident which occurred some years ago, disclosing the early naval predilections of the Queen.

In early youth, Her Majesty, then Princess Victoria, resided at Ramsgate for a season, for the benefit of the sea air, and while there sometimes took walking exercise upon the pier.

HER PRESENT MAJESTY WHEN PRINCESS VICTORIA.

On one of these occasions, her approach becoming known, the captains of the few vessels lying in the harbour displayed all the

flags they could muster, in honour of England's future queen Arriving, in the course of her ramble, opposite the little vesse on which I was then employed, the royal lady suddenly stopped her quick nautical eye having observed

"A banner with a strange device;"

and thereupon, tripping on board, she politely addressed the cap tain, "Please, Sir, will you tell me what flag that is," pointing to a small one flying at our main; "I know all the rest, but thi is new to me." "Your Royal Highness," replied the captain, "i is the private signal flag I hoist when nearing the African port t which I generally trade, that my consignee may know what shi is entering the bay."

"I thank you, Sir," said the little Princess; and, her curiosity satisfied, she trotted off, and continued her walk.

* * * * *

A loud clapping of hands testified to the interest the chief office had excited; and, having a fine voice, he was solicited to sin Campbell's noble song—

"Ye mariners of England!
That guard our native seas;
Whose flag has braved a thousand years,
The battle and the breeze!

Your glorious standard launch again
To match another foe!
And sweep through the deep,
While the stormy winds do blow;
While the battle rages loud and long,
And the stormy winds do blow.

The spirits of your fathers
Shall start from every wave!—
For the deck it was their field of fame,
And ocean was their grave.

Britannia needs no bulwarks,
No towers along the steep;
Her march is o'er the mountain waves,
Her home is on the deep.

The meteor flag of England
Shall yet terrific burn;
Till dangers troubled night depart,
And the star of peace return."

The aroused enthusiasm of the company displayed itself in a jubilate of hurrahs, followed by the national anthem; and soon after, the stirring strains of "Rule Britannia," arising from the forecastle, plainly told that down there amongst the crew were hearts of oak ready to follow

"Where Blake and mighty Nelson fell."

NOTE.—The British Government has recently issued a new and more extensive code of Sea Signals.

The principle consists in assigning to each of eighteen flags a letter of the alphabet, leaving out the vowels, such consonants however being employed as *signs*, not as letters of words.

Making use of Marryat's flags, with slight variations, and four or five flags in addition, no less than 78,642 distinct signals may be exhibited, none requiring more than four flags to be hoisted at the same time.

Page 32, line 14.—For "yellow" read "white" centre.

CHAPTER V.

AT SEA—SUNDAY—THE SERMON.

" Over all the face of earth
Main ocean flow'd, not idle, but with warm
Prolific humour." MILTON.

IMPELLED by the pleasant trade breezes our ship glided steadily through the smooth waters. At a quarter to eleven o'clock the bell rang for divine service, the ensign being thrown over the capstan, which served as a reading desk, extra stools from the cabin and a few raised planks, in addition to the fixed seats on deck, affording accommodation for the audience.

The burnishing up of the motley group for these religious services was amusing to notice—the superior attire of the gentlemen, the more decorative toilette of the ladies, the clean duck trowsers of the seamen who, as they came on to the quarter-deck, displayed varying attempts at distinction with their many hued neck-kerchiefs and emphatically brushed hair.

Six bells (eleven o'clock) struck by three sharp quick tinkles and three slower heavier strokes, indicated that the hour of wor-

ship had arrived, then perfect silence and attention ensued, the only wandering eyes on board being those of the helmsman alternately watching the compass and the topgallant sails, his orders being to mind his weather helm, and keep the sails easy full during prayers, and the chief officer occasionally glancing to windward to espy any sudden squall stealing over the waters.

The notes of the Morning Hymn rising from the mixed voices were mellowed by the surrounding sea.

> "Hark! how it grows more strong;—
> And now it steals along,
> Like distant bells upon the lake at eve."

The lessons, Genesis, chapter 1, and Psalm 107, and prayers ended, the minister announced his text, Psalm 104, verse 25th—

> "This great and wide sea."

and continued—All scripture is given by inspiration of God, and is profitable for rebuke, exhortation, and instruction in right mindedness; and the humble attentive soul, however disturbed and distressed, may always find therein rest, consolation, and light, for truth, duty, God, beam forth from every page, even as this everliving sea, whether tempest-tossed or placid, unceasingly reflects a bright joyous track, direct from every watching eye to yon glorious sun above us.

In the spirit of the principle thus laid down, it has appeared to me that I could not more suitably assist your meditation on this our first service on shipboard, and cause us to feel at home with one another and with the surrounding element, than by a short review of those scripture passages wherein the great ocean, upon which we are being wafted far from our native land, occupied the writer's mind either as the direct subject of his pen or by way of illustration; and I shall endeavour to draw therefrom, as we glide along the sacred page, some lessons which in after life may be attended with mental profit whenever our present voyage may recur to your thoughts.

The Waters of Life.—"This great and wide sea;"—the all pervading character of water, and the origin of its teeming life, are set forth in terse, noble, simple language in the opening of the world's history; and how enlarged does the meaning of our first lesson become when read in the light of the investigations of science.

Before man was created the waters of the globe were crowded with living beings, so numerous that the shelly coverings of the frail bodies of one small section now compose thick layers of the earth's crust, known as the chalk formation; the Almighty architect of the universe causing the globe in its progress to its present state of a suitable home for man to assume the conditions of fit residence for innumerable forms of vegetable and animal life. And to such as may fear lest their reverence for the scriptures might be placed in jeopardy by the encouragement of this enlarged belief in the antiquity of God's works upon the earth, we would say, "Ye do err not knowing the Scriptures, neither the power of God, with whom a thousand years are as one day."

And as the earth's sphericity and its motion were equally at the time of their announcement contrary to the religious opinions of the age, and yet are now admitted and received by the most devout, so the doctrine of the gradual building up of this ever fresh and verdant home for man will be ere long cordially embraced by the good, who will then read with a deeper feeling of loving awe, that "Of old hath he laid the foundations of the earth."

The inorganic remains of the multitudes of creatures formerly existing on the globe now inhabited by man, afford intensely interesting objects for study by the microscope, which has opened to our view another world of the Creator's wonderful works, and a very slight acquaintance with the discoveries of that instrument causes the inquiry, "Where is the dust that has not been alive?" to cease to be regarded as a poetical exaggeration. And if the inspection of a beautiful simple flower gave courage to the lonely

traveller in the African desert, teaching him a lesson of the *all pervading present* providence of God, so should the studies of the geologist enforce the great idea of its *continuity*. "To day, yesterday, and for ever the same." "I am that I am." "With me there is no variableness or shadow of turning."

The Waters of Death.—Pause we now over the 8th chapter of Genesis, and note with what quiet grandeur the event of the Deluge is related.

True, the whole account has been scoffed at as improbable, nay as impossible, as a myth, an invention of the writers of the Scriptures; the objectors forgetting that the great object of the Bible is not to give details of natural philosophy, but to instruct in moral duty; nevertheless, whenever the relation of great events was necessary to the purpose of the writers, the narratives were artlessly, boldly, woven into the texture of the history, though the delineations might be sometimes only dimly given, just as a painter indicates distant objects, however grand and important, by a few suggestive strokes, reserving higher elaboration for the nearer and more immediate subject of his picture.

These objectors have also for the most part entirely overlooked the fact that traditions of this sublime catastrophe are widely spread. Plato mentions the great deluge in which the cities were destroyed, and useful arts lost, and suggests that there was a great and universal deluge before the particular inundations celebrated by the Greeks; and Ovid's description of Deucalion's flood is minute in its harmony with the Scriptural account. Lucian also mentions more than once the great deluge in Deucalion's time, and the ark which preserved the small remnant of human kind; referring to the wickedness and proffigacy of the former generation, for which reason the earth gave forth abundance of water, great showers of rain fell, the rivers increased, and the sea swelled to such a degree that all men perished.

Similar traditions abound in the East, as also in the interior Africa, and in the South Sea Islands, all bearing a striking rese blance to the narrative of Moses.

Still stranger than the mythical theory, is the fact that t advance of science should in a few years have taken the delu out of the category of impossible catastrophes, and by diminis ing its proportions in comparison with the overwhelming chan geology announces as having occurred in our globe, has reduc it to an ordinary process of nature, a thing of naught.

We hold to the truth of the record that it was easily possi to him "who taketh up the isles as a very little thing," that, howev partial or local it may have been, the deluge was co-extensive wi the then diffusion of the human family, that it was not in t ordinary course of nature, that it was a direct interposition God, and would learn from it to revere his justice, and adore h love, arching all being as the bow in his cloud. Connected wit this event we may notice that the first ship, "Noah's Ark," o whose construction we have any account, was probably larger tha any which will ever again be built. The directions for its erectio were explicit, though simple. "Make thee an ark of gopher wood, rooms shalt thou make in the ark, and shalt pitch it within and without with pitch; and this is the fashion thou shalt make it of; the length of the ark shall be three hundred cubits, and the breadth of it fifty cubits, and the height of it thirty cubits, with lower, second, and third stories shalt thou make it." Estimating the cubit to have been eighteen inches in length, the capacity of the ark must have been about 40,000 tons; and in this huge vessel, "when the water prevailed exceedingly upon the earth," Noah, and they that were with him, rode safely above the swelling waves until the flood assuaging, the ark rested upon the mountains of Ararat.

The Waters of Retribution.—Within the limits we have prescribed to ourselves the next memorable occurrence related in the Old

Testament is the passage of the Red Sea. In brief, the tale may thus be told:—"The children of Israel went into the midst of the sea upon the dry ground, and the waters were a wall unto them, on the right hand and on the left. And the Egyptians pursued and went in after them to the midst of the sea, and the waters returned and covered the chariots and the horsemen, and all the hosts of Pharaoh that came into the sea after them."

The man of wisdom, Joseph, had saved Egypt from famine, and the grateful sovereign invited the family of the saviour of his country to settle in the land. "Take your father and your household and come unto me, and I will give you the good of the land of Egypt, and ye shall eat the fat of the land."

The graceful recognition of important services rendered to the state, and on the other hand the noble bearing of the recipient of the generous rewards heaped upon him, caused all things to progress harmoniously until, by the lapse of time, the death of the sagacious prime minister, and the accession of another king, who knew not Joseph, the national good he had been the means of achieving was forgotten, the descendants of himself and family were made slaves, their labour unremunerated, and their lives embittered by oppression; even their desire for a quiet, peaceable emigration was forbidden, and the tyrants oppressed them more and more.

The bitter cry of the wretched came up into the ear of the All Just, and the fiat of deliverance went forth.

The ancient heathen had a saying, that whom the Gods would destroy they first infatuate; we rather modify the thought and reverse the order of the ideas, and say that rash headstrong men who may be aptly termed blind, persist by their self-will and obstinacy in rushing to their doom; such was the case with Pharaoh and the Egyptians.

Injustice and oppression may be borne for a while, but it is impossible for a government long to run counter to the sympathies

and rights of a people or any large class in the nation; and t history of our own country affords an illustration that when t peaceful leaving of the land by an aggrieved party is prohibit its compulsory detention will probably terminate in rebellion a sad necessity. Individual sins, national sins, world's sins, v not go unpunished; wrong, done by whom it may, can ne become right in the sight of God.

The Waters of Friendship.—I would now direct your attent to a more peaceful scene, illustrating the advantages nations n derive from the interchange of the commodities peculiar to respective countries.

If an individual could procure by his own hands everything considered desirable, there would be no absolute necessity communication with his fellow-creatures, and all the kindly feeli induced by social intercourse would be undeveloped.

So also with nations; one country, by the arrangements of Almighty Creator as to its soil and climate, produces article the vegetable kingdom of great utility and desire to the in bitants of another, "Every tree that is pleasant to the sight good for food," and abounds in the "precious fruits brought fo by the sun, and the precious things of the earth, and the ful thereof," with flocks and herds, the land flowing with milk and hon other countries are devoid of this luxuriance of vegetable but are rich in gold, silver, iron and brass, the "precious thi of the everlasting hills."

Again, other nations whose lands are not so largely ble with natural advantages are endowed with peculiar mechan skill, converting the raw materials into articles of utility beauty; artificers in brass and iron, and cunning workmen in textile fabrics, naval and civil architecture.

By mutual interchange, the wants of each people are met, the enjoyment of the Almighty's blessings extended; and l utterly subversive of the intention of a bountiful Providence,

of the true good of a country must that policy be which by its fiscal arrangements forbids or restricts this exchange of benefits. Far wiser was the course pursued by the Hebrews and Phœnicians in those extensive mercantile transactions by sea which took place on the occasion of the building of Solomon's temple, the Mediterranean being thus made the great highway along which blessings were conveyed to both nations.

The Hebrews were eminently an agricultural people, while the Phœnicians were noted for their manufacturing skill, and therefore to them Solomon applied for assistance in his great work. "Command," said he to Huram, king of Tyre, "that they hew me cedar trees, fir trees, and algum trees out of Lebanon, and I will give hire for thy servants according to all thou shalt appoint, for thou knowest there is not among us any that know how to cut timber like unto the Sidonians; and send me a man cunning to work in gold, and in silver, and in brass, and in iron, and in purple, and in crimson, and blue, and that can skill to grave." And Huram sent to Solomon saying, "I will do all thy desire concerning timber of cedar, and timber of fir, and my servants shall bring them down from Lebanon unto the sea, and I will convey them by sea in floats unto Joppa, and will cause them to be discharged there; and thou shalt carry the timber up to Jerusalem, and the twenty thousand measures of beaten wheat, and twenty thousand measures of barley, and twenty thousand baths of wine, and twenty thousand baths of oil which my lord hath spoken of, let him send unto his servants."

Closing the Old History let us turn for a short time to the New Testament, and note some of those passages in which water plays an interesting part.

It is remarkable that while the actors of the Old Testament were principally drawn from pastoral pursuits, those of the New were most frequently taken from seafaring occupations, many of the earliest disciples being fishermen.

Water, an Emblem.—In one of the two simple expressive sacraments instituted by our Saviour—that of baptism—water is used to shadow forth a change in the soul from evil to good by the influence of the Holy Spirit, as washing with water cleanses the soiled body of man. "Unless I wash thee thou hast no part in me," said Christ; but this evidently referred to the spirit of man and not to the mere external act of applying water, otherwise the Saviour would have himself performed it on all willing converts, whereas it is expressly stated that "Jesus himself baptized not, but his disciples." From the manner in which the subject is treated by the apostles, Paul thanking God that he had personally baptized few at Corinth; his ranking preaching the gospel far above baptizing converts; and the freedom with which private Christians performed this ceremony, for Paul himself seems to have been baptized by a private Christian, "a disciple called Ananias," it may be unhesitatingly concluded that no peculiar sanctity is imparted to the ceremony by any official character the person performing the rite may possess. It is a debated question whether infants were baptized in the time of the apostles,—from the mention of "all his" and "household" it seems probable such was the case.

Without going further into this question, as likewise that of total immersion or sprinkling, the propriety of one or other of which courses depends more upon the temperature of the climate and the ordinary habits of the community than any express injunction, we can only on this occasion deprecate the unchristian spirit in which the subject has been discussed.

Water and the Saviour.—In the course of his life on earth the Saviour manifested his supreme power over nature on several occasions; those which fall within our range are the conversion of water into wine, and his walking upon the sea. Christ was no ascetic, nor was the religion he inculcated one of form and ceremony, though these were duly observed in subordination to higher

and more spiritual matters. His religion was to be a vital part of the individual, of which the possessor could no more divest himself than of his bodily heart or his soul, or the aspect of his countenance, the whole personal character was to be so imbued with religion that it must necessarily appear as an influence upon the action, thought, and word of every-day life, not a matter for special attention at certain times only. Moreover, if like Christ, it was to be of a cheerful, social aspect, countenancing the joyous occasions of life with its presence, making the happy happier, as well as consoling the sorrowful; intensifying the joy, sharing and soothing the grief; shouting Hosannas with exultant acclaim "Oh, that men would praise the Lord for his goodness;" and yet when the whole head is sick, and the whole heart faint, pouring in the oil and wine of sympathy and relief.

On the occasion of the first-named miracle, Mary, by her directions—"Whatever he says, that do ye:" seems to have had a presentiment that Jesus would retrieve the character of the host, probably some friend or relation, which was likely to suffer by the imperfect provision of wine for this marriage banquet. The assistance was rendered at a suitable time, and no niggardliness marked the manner of its doing; it was the "best wine," and its superior quality attracted particular attention.

In that long interval between his visit to the temple at twelve years of age, and the time we are now considering, what dutiful loving attentions had she received; but upon all this period the history throws little light, only the significant words, "he was subject unto them;" henceforward, however, by the quiet, gentle reproof which he gave to her earnest solicitation, mother and son must have felt that he was no longer to be subject to her, but that a change was about to take place in their relative positions: "I must be about my father's business."

We may some day revert to this narrative again, meanwhile I may refer to an anecdote related of one who subsequently became

a great poet, that in his youth, this miracle having been given out as a school theme for an essay (a practice highly objectionable, rendering sacred matters wearisome), the youthful wayward genius, unable to gird himself to the task, allowed the exercise to remain unattempted until the moment of delivery, when he hastily wrote the line, "The water saw its God and blushed."

In reference to the miracle of walking upon the sea, we may remark that it was such an entirely new development of Christ's authority, and so unexpected, that consternation filled the minds of the disciples; it conveyed to them a lesson of profound reverence for his mysterious sublime power. The specific gravity of the human being is much greater than that of water, and the body sinks unless the lungs be kept inflated by the art of the swimmer; and even then it is perfectly impossible for an ordinary man to stand erect upon the sea in the manner Christ appeared to the disciples.

I will conclude this branch of our subject by remarking that as an indication of his own humility, and to teach others by his example, Christ is represented as pouring water into a basin and washing his disciples' feet, an occupation appertaining to an inferior position; and that the only recorded instance of the Saviour sleeping is when on board a ship that was carrying him from one scene of labour to another. In the great storm which alarmed the company, and prevented all others from slumbering, the master of the elements slept undisturbed in the hinder part of the ship upon a pillow. Surely repose and tumult were never before so allied.

Water, the Seaman's Grave.—The voyage and wreck of the Apostle Paul are graphically described in the Acts, and it would appear that under his directions the vessel was driven before the wind well up on to the beach, which our commander informs me was an act of good seamanship, as it is in the distance between the ship's first touching the ground and high water mark

that the wrecked are most exposed to destruction; and the chances of escape are proportionately increased if this interval can be diminished by placing the vessel before the wind and running her through the surf as high on shore as possible, instead of the head being vainly kept toward the sea, as is too frequently the case when all hope of leading off a lee-shore has ceased.

* * * * *

I must conclude these brief references, which it would have been more easy to have amplified than thus condensed, by directing your notice to the vigorous, gorgeous imagery in the Revelations, wherein we read of "the voice from heaven as the voice of many waters, and the sea of glass mingled with fire; and they

that have gotten the victory over the beast and over his image and over his mark, and over the number of his name, stand on

the sea of glass having the harps of God. And they sing the song of Moses, and the Lamb, saying, Great and marvellous are thy works, Lord God Almighty, just and true are thy ways thou King of Saints." And the beloved apostle further beheld "a pure river of water of life, clear as crystal, proceeding out of the throne of God and of the Lamb. In the midst of the street of it, and on either side of the river was there the tree of life, which bare twelve manner of fruits, and yielded her fruit every month, and the leaves of the tree were for the healing of the nations. And there shall be no more curse, but the throne of God and of the Lamb shall be in it, and his servants shall serve him. And they shall see his face, and his name shall be in their foreheads. And there shall be no night there, and they need no candle, neither light of the sun, for the Lord giveth them light, and they shall reign for ever and ever."

Into which happy haven of repose may God grant to each of us an humble entrance, after this voyage of life,—Amen.

Our minister so ingratiated himself with the seamen during the voyage that he became a general friend. On arrival at our destination, and after the passengers and their luggage had been all landed, and the cargo partially discharged, he begged the use of the cabin for half a day in order to treat the crew to a dinner, to which proposition assent was easily obtained, the minister being as much a favourite with the captain as with the men. At half-past twelve o'clock work was discontinued for the day, the lads swept the decks, and had the crew been preparing for a Queen's drawing-room they could not have been more scrupulously clean and daintily equipped in their best finery.

At one o'clock we descended into the cabin to dinner, and ample justice was done to the massive joints of roast beef, the

trim legs of mutton, and steaming vegetables; immense plum puddings and gigantic cans of foaming beer being superadded to the more heavy items of the bill of fare. No happier man in the colony that day than the good minister presiding at the dinner-table of bold seamen. The repast over, pipes and tobacco were introduced, and wine wherewith we drank the health of the host and captain,—toasts received with hearty cheers from lusty throats, the whole finishing with glasses of grog all round. Once more filling their pipes, the crew adjourned to the forecastle, where our ministerial friend naturally formed the topic of conversation.

"He is not as most parsons," said one, "always walking aft and never casting an eye for'ard, like the generality of the sky-scraping black coated gentlemen, who rather seem to think they are better than the rest of us, but it ai'nt the more true for all that; and I tell you what it is, even they do not always keep their luff who have nothing else to do, and it is rather hard if a sailor may not fall off the wind a little and have a bit of a spree sometimes."

"Why," said another, "many's the time when he's been for'ard and seen a hand a smoking with hardly any baccy in his pipe, he says, says he, 'Tom, there is not much good in that, you are nearly out.' 'Almost, sir.' 'Will you have a cigar,' says he, and he would pull one out of his pocket and hand it over, and when he saw him a going to the cook's galley for a light, he warn't too proud to say, 'Here, light it by mine,' and as he went aft would laugh kind like, and say, 'When you have smoked that you can have another if you choose.'

"And for all that he tells us about our sins pretty stiff, and all about heaven and hell, and it ai'nt his fault if we don't keep our course. And then you should hear him pray for all on board, for them that do business in waters and go in ships. And you know when the hook of the block broke, and it came down out of the fore-top, and might have killed a man, it only bruised him; and when the boy fell overboard was'nt he saved; and when you thought you were all poisoned, and he among the lot, did'nt you

all come round; and I heard the captain say the other day we had'nt lost even a stunsail boom all the voyage; and so it is all right, and I think he's got something to do with these here things."

"And," said another, "you hav'nt seen a man drunk since we have been on board the ship, not even in port; and more, if we knew where he's a going to preach, Sunday or workaday, there's not a hand on board, that the master will spare, who will not go to prayers, except the Maltee covey, who makes his crosses afore he turns in, and kisses a little image all made of bone, no bigger than my thumb, and don't row long of us like."

And it was true.

COLUMBUS.

CHAPTER VI.

"'Tis thou, Columbus, to another pole
Shalt rear the mast, and o'er the surges roll;
Thy deeds shall last in storied annals long,
The copious subject of some poet's song.
* * * *
Then other islands midst the main they spied,
And lands less steepy rising o'er the tide;
Delightful isles, renowned of ancient date,
And styled by tuneful bards, 'The Fortunate.'
The rivers, murmuring from the hills above,
With crystal streams, renewed the vernal grove.
No sultry heat oppressed the grateful day;
Soft dews and zephyrs cooled the solar ray;
And here were feigned the mansions of the blest,
Th' Elysian seats of everlasting rest."

THE mariner navigating an unknown sea or river marks the ld headlands, rocky points, and bluffs; the contour, curves, and

compass bearings of the shore; the character of the cliffs, the shoalings of the water; and thenceforward the new regions are familiar to all seamen by these well known signs.

The observant land traveller through a strange country notes the nature of the soil, the courses of the rivers, where a dense forest shrouds him in, and where an open plain gently undulates before him; he records the spots where animals and birds abound, and reports their species, plumage, song, and habits.

Thus are these seas and lands brought within the common geography of nations, and henceforward and for ever they are part of our own globe, and belong to humanity,—we know them.

So there are mountain heights, streams of rich influence, notable events and discoveries in the history of the human race, which once accomplished, have for evermore, marked, abiding effect, on the mind, physical condition, and well-being of nations.

Of these starting points, landmarks to the family of man, the revelations of God by Moses and Christ, which have had an overwhelming influence upon human thought and pursuits, stand out in bold prominence; and subordinate to these may be named the geometrical principles announced by the Egyptians and prosecuted by the Greeks, which have become the foundation of all mathematical learning and mechanical skill in succeeding ages—the high thoughts of liberty which for ever remain in the Greek writers—the maxims of law, and civic institutions, established by the Romans, which have since formed part of the legal studies of all nations—the philosophy of Bacon and Newton, by which men have arrived at the knowledge of the laws of nature through observations of its phenomena—the invention of printing by moveable types, diffusing, as a broad daylight upon all, the reflected rays of superior minds—the invention of gunpowder, raising war from the rude concussion of individuals to a chess game of scientific implements and positions—the invention of steam appliances, conferring upon the multitude greater advan-

tages than previously possessed by the few, thus making "the many" rich—the electric telegraph, that grand link between mind and mind, by whose means space and time are spanned by a bridge of lightning.

The magnet possesses no north pole without its correlative south pole, and there is no positive electric pole without its negative; so theory to the man of genius, internal persuasion, is as the one pole of the magnet, the other pole, the outer phenomenon or fact, may be near, or it may be remote; it may be at hand just through the thin partition, or ten miles distant, or ten thousand.

The observer in a galvanic circuit may not be able to point out to his less gifted neighbour the whereabouts of the battery, the exciting cause of the present felt influence; it may be at his feet, or distant as the faintest twinkling star, but he is certain that it exists somewhere. So the intuition of genius knows that the external fact of which his thought is part of the circuit exists in nature, although for the moment unable to map out its precise bearings.

"I have found it," cried the philosopher of old; "I have found it," he shouted, as he hurried along the highway, doubtless to convey the intelligence to some brother believer in science.

Found it?—found what? we may almost fancy we hear some solid practical citizen exclaiming; it would rather appear he has lost something—his wits—for such conduct is not seemly, is unbecoming the dignity of a sedate citizen. Nay, carping friend, with reason was the philosopher outrageously joyful, for had he not found a pearl of great price! He had discovered the glorious 47th problem; a victory of knowledge for you, and for me, and for all time.

Palissy was deemed a fool during the fourteen years of anxious toil and poverty through which he passed, before he accomplished the burning of colours in porcelain; the victory was won at last, and specimens of his skill, ages after his death, are valuable as the precious metals.

Always and ever the same, the thing unknown, unaccomplished, is a dream, an absurdity to the mass; the thing done, is it not well known, and no longer difficult.

* * * * *

One of the greatest achievements of this class—one which has had an important and permanent bearing on the world's history, was the discovery of the Great Western Continents—the New World, as they were long and properly designated—now known by the more ordinary names of North and South America.

Down to the time of Columbus, the form of the globe had been variously conjectured; by some geographers being mapped out as a flat plain, bordered by seas, to which imagination only fixed the bounds; but in his age the idea of the earth's rotundity erupted as a volcano into the slumbering level of the human mind, agitating the intellect of thoughtful men.

Pondering over and cherishing this great new thought, and the well-known circumstances that India was situated to the east of Europe, and in the same northern hemisphere, and that an unexplored ocean lay to the west of Europe, Columbus arrived at the conclusion, which once conceived was irresistible, that, unless land intervened, instead of endeavouring to reach India by an eastward course, sailing round Africa, and crossing the equator twice, the shortest way to the East Indies would be to sail directly westward; and the inspection of every spherical body must have kept the idea perpetually before him, and suggested a proof of the truth of his conjecture. This simple, sublime conception he submitted to the test of experiment, and through much discouragement, supported only by the clearness of the theory to his own pure mind, the brave philosophical navigator achieved, not his original design, but one equally or even more important, the discovery of another India, the West Indies.

Several nations share the honour of tracing out portions of these vast American continents. The English trials to find a

sea-passage to the East Indies, northward of the great American land, led to the discoveries so well known as connected with the names of Baffin, Davis, Frobisher, Franklin, Parry, and Ross, whose extensive surveys map out the icy regions of the North Pole. Band after band of heroes pushed forward Arctic navigation with untiring effort to discover the North-West Passage, for a long period without success, but the glorious honour has at last been won by the courage, perseverance, and patience of our worthy countrymen.

The French investigated other portions; and planted colonies in the southern peninsula of North America, and also the pine-clad districts of Canada, which they retained until the close of the eighteenth century. It was in connection with American colonizing plans and adventures that so much misery was caused in France by the wild projects known as the Mississippi Scheme.

The English founded settlements at various points on the mainland, and also on several of the neighbouring islands; and still nearer to the equator Mexico and Peru were invaded by the Spaniards, who in small bands, mere handsful of men, maintained by their prowess and arms fierce and successful contests with the aborigines. The exploits of these adventurers, mellowed by the hues of distant time, possess a romantic charm which a nearer view would dispel.

Beyond the Spanish main, Brazil was discovered by a Portuguese, Pedro Alvarez de Cabral; who being on a voyage to India, was driven by a storm westward, and made the land of South America, in April, 1500, and named the country Santa Cruz (Holy Cross), in gratitude for his deliverance from shipwreck; but the name of Brazil was subsequently given to it on account of the abundance of the dye-wood, Braziletto (cæsalpinia custa), brought thence, and this name it has ever since retained.

These vast continents, thus discovered at various times, and piecemeal, have been the source whence Europe has principally

derived its modern immense supplies of those important articles, gold, silver, cotton, sugar, coffee, and tobacco.

The northern part, Canada, taken by the English from the French as the prize of the battle of Quebec, fought under the gallant General Wolfe, is peculiarly adapted for growing corn, and thither many thousands of our countrymen annually emigrate, and purchasing farms at a low rate, eventually find their way to position and affluence. The timber removed from the vast forests to make way for the cultivation of corn, forms an important article of export to England, paying by its sale for the expense of clearing the land, which is all the more valuable for its removal.

Crossing a barrier of lakes or seas, we enter that extraordinary development of a former English colony, now the great United States of America; and there, corn in the northern states gives place, as we advance southward, to maize, rice, cotton, tobacco, and sugar.

THE COTTON PLANT.

1, *blossom*; 2, 3, *and* 4, *flower at different periods*; 5, *bur*; 6, 7, 8, 9, 10, *down or cotton, opening and fully ripe.*

The cotton plant (gossypium herbaceum) generally grows about three feet high; its fruit consists of round three lobed

capsules, with seeds the size of small peas. After flowering, the capsules swell out, and when perfectly ripe burst, and the down surrounding the seeds protrudes, and is gathered as speedily as possible to prevent injury by the weather.

The important part in the commerce of England, which is performed by the down of these cotton pods, may be better appreciated from the following statement of the quantity imported yearly, and from the fact that whole towns, each larger than the capital city of many countries, and many hundreds of thousands, millions we may say, of English-men and women and their families, directly or indirectly, obtain their livelihood from its manufacture into cloth, and the necessary appliances for that purpose.

Weight of cotton wool imported into England in the year 1852:—

	lbs.
United States	765,630,544
Brazil	26,506,144
Mediterranean	48,058,640
East Indies	84,922,432
West Indies	703,690
Other countries	3,960,992
	929,782,442

The value of cotton goods and yarn exported in the year 1853, is stated to have been no less than £32,709,385. The general name of calico, applied to the plain white cloth manufactured from this fibre, arose from the circumstance that this description of textile fabric was first procured from Calicut, in the East Indies, the seat of the original manufacture. So extremely fine can this fibre be spun, that one pound weight of cotton down has been formed into a thread 167 miles long.

The coffee (coffea arabica) is a very beautiful plant, its long glossy dark green leaves presenting a pleasing contrast to the clusters of white jessamine-like flowers round the stem. When the berries are ripe they are of a dusky red colour; each berry

containing two grains of coffee, surrounded by a soft pulp, which soon dries after the berry is picked, the coffee grains being separated from the husk by crushing the outer coating.

The peculiar refreshing aromatic principle which coffee contains has caused it to become a very favourite beverage, and its use in England may be judged by the quantity imported,—amounting to sixty millions of pounds weight yearly, of which about half is retained for home consumption, and the residue exported.

The sugar cane (saccharum officinarum), which has become so important to man, is a plant of the grass tribe; it is always

THE SUGAR CANE.

A, *single flower enlarged:* B, *flower open; a, stigmas; b, stamens; c, scales; d, palæ.*

propagated by cuttings, an internode or knot being included in each piece planted in the soil; from this setting the stem rapidly shoots up to the height of from eight to twenty feet. At a late stage of its growth a loose panicle of triandrous flowers is developed,

and on arriving at maturity, the stems, whose soft spongy tissue contains the sweet juice, are cut down and chopped into convenient lengths for carriage to the crushing-mill, where the pieces of cane are passed through powerful iron rollers to express the juice. This juice is subsequently boiled into a thick syrup, which crystallizes on cooling, yielding the several varieties of sugar so largely used in the civilized world, 20,000,000 cwts., or 1,000,000 tons being the estimated production annually; the yearly imports into the United Kingdom amounting to no less than 7,000,000 cwts., or 350,000 tons.

The leaves of several species of the plant nicotiana, constitute the article known as tobacco.

The smoking of tobacco was introduced into England by Sir Walter Raleigh about the year 1586, and although laws were made against its importation, and even the monarch took up his pen to denounce the weed, the use of tobacco has become so extensive that upwards of 20,000 tons arrive in the United Kingdom every year.

RIO JANEIRO.

The city of Rio de Janeiro, the capital of Brazil, is built on an elevated tongue of land, and stretches along three miles along the

south of the bay, being cloven into sections by several spurs of hills. A good view of the bay (seventeen miles in length, and eleven in extreme width), on the side of which it is situated, with the numerous picturesque islands scattered over the waters, may be obtained from the granitic pile called the Corcovado Mountain.

Wooded almost to its summit, the traveller emerges suddenly out on to the bare rock, and enjoys the panorama of small lakes distributed over vast plains, broken by masses of elevated lands, among which the forest clad Organ Mountains are conspicuous.

On these mountains, as over the whole of this magnificent country, the naturalist may wander for years, perceiving fresh novelties at every step. The beauteous forms of Brazilian flora, particularly its wondrous parasitic plants of every variety of foliage and colour, have attracted the attention and admiration of the botanists of all countries.

Birds of all hues people these dense forests; and of the beautiful feathers of the head and breasts of the infinity of humming birds which abound, delicate ornamental wreaths are manufactured, the wing cases of beetles being set therein like shining precious stones, reflecting and refracting the rays of light with intense brilliancy.

Luxuriously embowered in gardens wherein flourish oranges, lemons, pomegranates, palms, and numerous indigenous Brazilian plants, the homes of Rio merchants dotting the silvery shore of the bay, at a short distance from the city, are delicious little Edens of pleasure and repose.

Gay city of Rio, farewell.

CHAPTER VII.

AT SEA—THE DOCTOR'S LECTURE—THE PHILOSOPHY OF A SEA VOYAGE.

"Still as a slave before his lord
The ocean hath no blast;
His great bright eye most silently
Up to the moon is cast.

If he may know which way to go,
For she guides him smooth or grim;
'See brothers, see how graciously
She looketh down on him.'"—COLERIDGE.

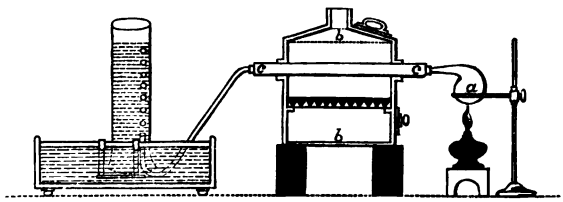
To obtain the treasure which the dying father in the fable, said lay hidden in the garden, his sons dug every part of the ground thoroughly and carefully, and though they found not the money treasure, they reaped a more solid advantage,—the garden became so productive that the promised fortune was indirectly realized. So the Alchemists' search for the philosopher's stone, whose magic touch was to turn everything into gold; their attempts to transmute the common into the precious metals; and their experiments to

compound an elixir of life, gifted with the power of imparting perpetual youth, resulted in disappointment, as to the realization of these questionable wonders, but led to the more valuable discoveries of modern chemistry.

Water.

"We will begin our subject," said the doctor, with the consideration of water. The ancients regarded water as an element which, with fire, air, and earth, constituted the system of the world; and it was not until 1781 that Cavendish demonstrated it to be a compound body, the product of the combustion of hydrogen and oxygen, which latter had been obtained as a distinct substance by Priestley in 1774; and although hydrogen had been known before, it was not correctly described until by Cavendish in 1766.

However startling the statement may seem, I will decompose water before you; and borrowing a musket barrel from the



DECOMPOSITION OF WATER BY HEAT.

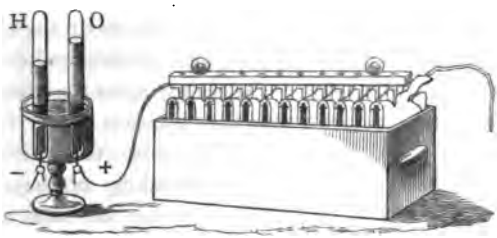
A. *Flask of water over spirit lamp.*
B. *Portable furnace in section.*
C. *Gun barrel, containing iron filings.*

The hydrogen gas passing through the bent tube is represented as rising in bubbles into the reversed cylinder, displacing the water, which previously filled that vessel.

armourer, and pouring in some clean iron filings, the doctor heated it in a portable furnace, and connecting a small glass flask of boiling water, with one end of the tube, he passed a current of steam through the barrel, and from the other extremity issued a gas, colourless, transparent, light, and explosive. This was hydrogen.

The iron filings had in the meantime become coated with rust, they had therefore acquired something from the steam, oxygen; hence water from the flask, in the form of steam, had been broken up into its two constituents or elements—hydrogen and oxygen—the one being retained in combination with the iron, the other element, hydrogen, passing forward.

Placing a galvanic battery on the cabin table, the doctor inserted in a small vessel of water two pieces of platinum, and connected each end of the battery with one of the pieces by copper wire, and reversing two jars over the platinum plates, the gases resulting from the decomposition of the water, which under such



DECOMPOSITION OF WATER BY GALVANISM.

The diagram shows the decomposition of water by a galvanic battery (the platinum plate rising in the jar H should be connected with the distant end of the battery). The water in the glass vessel is decomposed, and yields two volumes of hydrogen for every volume of oxygen.

circumstances is effected, were collected, oxygen in one jar, and hydrogen in the other, the proportion being two measures of the latter to one of the former; thus proving that water is a condensed combination of two portions of hydrogen and one of oxygen.

The lightness of hydrogen was manifested by its raising a small balloon high above the mast head, to the great amusement of the young folks on board.

From the peculiar behaviour of hydrogen, and the similarity it bears to many metals in combining with oxygen, it has long been a scientific speculation, that one day this ariel of chemistry will be reduced to a solid metallic state. In its present well known

form as a gas, it is sixteen times lighter than oxygen, and fourteen and a half times lighter than atmospheric air.

Evidence of the compound nature of water does not rest upon its decomposition only. "I will now reunite the constituents of water," said the doctor, and measuring off into the same jar a pint of hydrogen and half a pint of oxygen, he discharged a voltaic spark through the mixture; the previously dry interior of the jar was now moist, the gases had disappeared, a drop or two of water being the result of the combination.

Water is known in three states, solid, liquid, and gaseous, as ice, water, steam. Below 32° of Fahrenheit's thermometer it is a solid transparent body, familiarly known as ice, which being lighter than liquid water, floats upon its surface; the expansive force of freezing water is so enormous as frequently to burst asunder the pipes which it may be occupying at the time of frost, and causing bottles to break with the expansion.

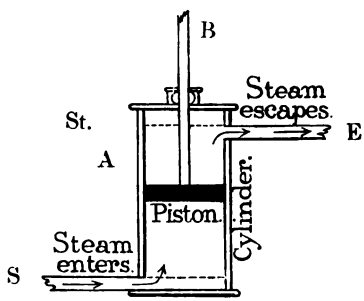
This force is of great service in agriculture, the freezing water separating the particles of earth, thus breaking up the clods and pulverizing the soil. The floating of ice depends upon the peculiar circumstance that water is at its greatest density at 40° Fahrenheit, gradually contracting in bulk as it descends from a higher temperature until it reaches this point, further cooling being attended with expansion instead of contraction; thus ice, which is frozen water at 32° occupies more space than the warmer water at 40°, and consequently floats or rises to its surface. If it were not for this deviation from the ordinary law, of bodies being more compact the colder they are, ice would sink, and layer upon layer be formed until the whole became a solid mass, resulting in the death of fishes, and increasing the time and difficulty of thawing; whereas from its being on the surface ice is always within reach of the sun's rays.

Between 32° and 212° Fahrenheit water is a liquid mobile substance, the freedom of motion of its particles among one another

enabling it to overcome resistances from friction, and permitting it to tend continually to penetrate towards the earth's centre, until some compact matter prevents its further descent.

This finding the lowest level is attended with vast and important consequences to mankind, the force of moving waters being employed to turn various machines, as flour, saw, and paper mills, and by its percolation through the earth, giving rise to springs and rivers, thus supplying man with refreshing drink in places where otherwise it would be impossible to exist.

At the sea level water passes into steam at 212°, and then occupies one thousand times the space it filled in the liquid state. This property of enormous expansion by heat is rendered available in the driving of innumerable steam-engines, some fitted in buildings on shore, others in motion on railways or in steam-vessels. The primary principle of all these machines is the same, being the force of the steam moving a disc or plate in an enclosed chest, with which plate is connected a rod, called a piston-rod, from which other pieces of machinery convey the motion wherever it may be required.



The dark portion represents the piston, which is acted on by the force of the steam. Not to complicate the diagram the action of steam on the lower side only of the piston is represented.

The steam enters the lower portion of the box A, called a cylinder, forces up the disc or piston, which raises the rod B, and by means of various apparatus attached to the extremity of

B, a rotary, up and down, or intermitting motion is given to other parts of the machinery, as may be desired. The details of these contrivances do not fall within our limits. The steam which entered at S is allowed to escape through E, having raised the piston from the bottom to the top of the cylinder; and another jet of steam entering at ST pushes the piston down to the bottom of the cylinder, and so on alternately.

Evaporated from the sea and rivers, water gives rise to the changes and beauty we observe in the clouds, for the air itself is invisible; it clothes the arctic regions and the summits of mountains with an intense robe of light; and as a polished mirror reflects the overhanging woods.

Its value to man as a refreshing beverage can only be appreciated by the fevered pulse, and those who have travelled in "a dry and thirsty land where no water is." Water dissolves many substances, as is evident from the following analysis of the English channel waters, and, as may be supposed, the matters dissolved vary much, according to the nature of the coasts near which the sea flows.

CONSTITUENTS OF BRITISH CHANNEL WATER.

Water	964·74372
Chloride of Sodium, (Common Salt)	27·05948
Chloride of Potassium	0·76552
Chloride of Magnesium	3·66658
Bromide of Magnesium	0·02929
Sulphate of Magnesia	2·29578
Sulphate of Lime	1·40662
Carbonate of Lime	0·03301
	1000·00000

Salt.

In connection with the solvent power of the sea, some observations on salt may not be out of place here, remarked the doctor. This common but valuable substance is obtained from several sources, and prepared in various ways.

I. By evaporation of the waters of the ocean, which contain about 3 per cent. of salt. This process is largely carried on in

the South of France, Spain, Cape de Verd Islands, Austria, Sardinia, &c.

II. By congelation. If a weak solution of salt is exposed to cold it separates into two parts, one almost pure water, which freezes, and the other, which remains liquid, containing a large proportion of salt. This mode of preparing salt is used in northern countries.

III. By surface evaporation, as practised in many of the inland countries of Europe, where, from brine springs, the weak saline liquor is pumped up and allowed to flow over heaps of brushwood, whose extended surface causes rapid evaporation and concentration of the brine, which is subsequently boiled down, and the salt then allowed to deposit by crystallization.

IV. When the natural brine springs are strongly salt, the solution is pumped up, and at once evaporated by artificial heat.

The springs in Cheshire being particularly rich, yielding sometimes 20 per cent. of salt, are worked in this way.

Brine springs originate in immense deposits of salt occurring at considerable depths below the surface of the earth, and as an economical mode of raising the substance, water is poured down into the beds of salt and pumped up again when saturated, and the liquor evaporated. There are many salt lakes in the world, the two most interesting being the Dead Sea, about forty-five miles long and ten broad, 1,000 grains of the water containing no less than 264 grains of saline matter; and the Great Salt Lake of North America, which is reported to contain as much salt as the water can possibly dissolve.

Whence came the salt is a moot question not likely to be readily decided.

The use of this article as a condiment with food, its value in the preserving of meat and fish, its importance in the preparation of chlorine for bleaching, and of soda for various manufactures, as glass and soap making, as a glaze for pottery, as a manure, and for various other uses, render this substance one of the most interesting subjects of study.

The Tides.

The great influencing cause of the tides is the moon, which by reason of its nearness to our earth has more effect upon the water than the larger but more distant sun; and were the globe covered with water there would be two high tides at every spot daily, one immediately under the moon, the other place of high tide being on the opposite side of the world; the waters nearest the moon being more attracted than the average, and the waters on the opposite side less than the average; and the water being drawn away from the other parts to supply these two waves, the tides would be low at the two intermediate points. The great tidal wave sets from east to west round the earth, but is much diverted from the direct line by the vast continents of Africa and America, and the chain of Indian islands terminating in Australia; moreover, the form of the land and the length and narrowness of the channels of rivers greatly interfere with the time at which the tidal wave arrives at any particular point on the earth's surface.

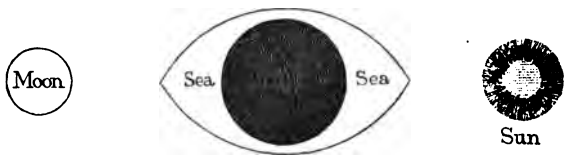
The sun, as we have said, also exerts an attractive power on the ocean, and when, as at new moon, the line of direction is the

SPRING OR HIGH TIDES.

New moon; moon and sun on the same side of the earth—high tidal wave—Spring tide.

same as that of the moon's attraction, the tidal wave is augmented, and a high or spring tide is the result; and when the moon is at the full, the moon and the sun being then on opposite sides of the world, the sun tends to draw the waters upwards from one side of the earth, and the earth itself away from the water on the side of

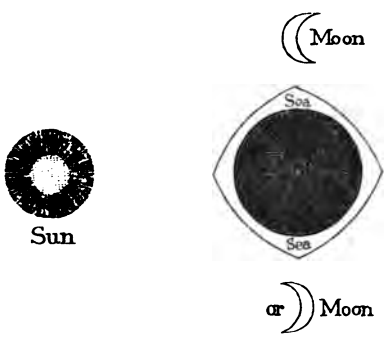
the moon, which draws the waters facing it up from the earth, thus occasioning a second high or spring tide. These tides occur



SPRING OR HIGH TIDES.

Full moon; moon and sun on opposite sides of the earth, each attracting the waters below it—high tidal wave—Spring tide.

every fortnight, viz., at new and full moon. At the moon's first and third quarters, and intermediately, lower or neap tides occur, as the following diagram may perhaps render more explicit:—



NEAP OR LOW TIDES.

Moon in 1st or 3rd quarter; sun and moon counteract one another's influence, and reduce the height of the tidal wave—Neap tides.

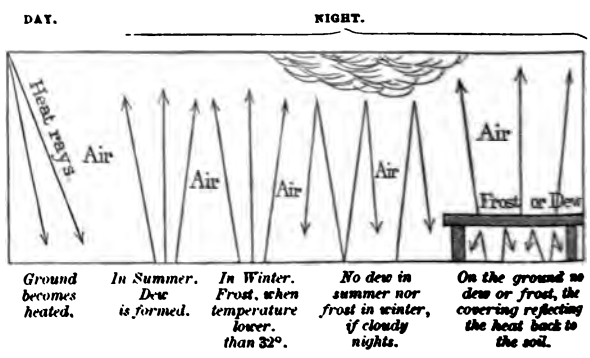
RAIN—DEW.

The warmer the air is at any given spot the more vapour of water is absorbed and sustained, but if by any means the air is lowered in temperature, as by meeting a colder current of air, or passing over cool earth, the same amount of moisture cannot be retained, and precipitation of a portion in the form of rain

ensues. The earth, by its absorption of the sun's rays during day, becomes hot, and warms the stratum of air lying on surface, which is thus rendered capable of sustaining a la quantity of moisture; at sun-down the land radiates or throws its heat into the atmosphere, and the temperature of the immediately above the ground being consequently lowered cannot retain all the vapour which it had imbibed in the d time, and a deposit of moisture takes place; this is called d The greater the difference between the temperature of the d and night at any given place the more likely is dew to be form Moreover, some bodies are more rapid radiators than others, th grass is frequently wet with dew when the gravel walk or roadw is dry; the numerous points of the blades causing grass to throw heat speedily, whereas gravel retains the absorbed heat long and does not cool the surface air so readily; hence in camping o it is warmer to lie upon the walk or roadway than upon the gra

On cloudy nights dew is not formed, the clouds reflecting ba the heat to the earth, so keeping up the warmth of the air on i

DEW AND HOAR FROST.



surface; and on the same principle, by a simple contrivanc delicate plants may be protected from the chilling effects radiation by stretching a screen over them; and this screen, ho

ever thin the fabric may be, reflects the radiant heat to the soil, thus preserving the temperature of the atmosphere around the plants.

Arctic voyagers narrate that in those regions cloudy days are the warmest days; the heat radiated from the earth being reflected by the clouds.

In hot latitudes the timber of a ship, being heated by the sun, warms the surrounding air, which takes up from the sea all the moisture it can sustain; at night the vessel rapidly gives off heat, and the wood becoming comparatively cold, imparts its coolness to the adjacent air, which can no longer retain all the moisture it had absorbed in the day, the excess is therefore deposited as a fine dampness over the whole ship which, before sunset, was perfectly dry.

Illustrative of dew and rain, a cold glass vase was brought into the warm saloon, and speedily a dewy moisture on the surface was apparent. "Observe," said the doctor, that portion of the warm air of the room in contact with the glass (which may be considered as a cool mass of earth) is unable to support so much vapour as it did before the vase was introduced, and therefore the unsupportable excess is deposited as a shower of fine rain; or the vase may be regarded as representing the earth cooling by radiation the air in its proximity, and the air thus reduced in temperature deposits as dew the moisture it can no longer sustain.

From a similar cause, generally in autumn and winter, when the nights are cold, moisture is frequently found on the inside of bedroom windows: the room is warm, but the cold air outside chills the glass, and the inside air in immediate contact with the window is thereby cooled and cannot support as much moisture as the air in the other parts of the room: some of the vapour is therefore precipitated as a fine dampness on the glass, and when the quantity becomes large it runs down the window as a stream of water.

The Air.

Man lives on the confines of two great gaseous seas; the land, his home, rising from the level of the upper surface of one ocean, the water, (composed, as we have seen, of two gases, oxygen and hydrogen, in a state of chemical combination), and penetrating by its mountain ranges into another great ocean, the air, composed also of two gases, oxygen and nitrogen, not chemically combined but in a condition of mechanical mixture.

Air is an invisible intangible substance, in which we move so freely that at first it might be doubted whether it is matter or not, but there are certain properties possessed by material substances which if air is found to possess likewise, we cannot doubt of its being material, although invisible. These are;—

1st, *Impenetrability*, or that property by which one body prevents another from occupying the same space with itself at the same time. If a glass vase, furnished with a stopcock, be inverted in a vessel of water, and we attempt to force the vase down, the fluid will not enter, being resisted by the air in the vase, and the resistance is owing to the impenetrability of the air; on opening the stopcock the liquid enters freely, being enabled to drive out the air which now has a means of escape.

2nd, *Inertia and Mobility.* By inertia is meant that if at rest a certain effort or force will be required to move a body, or if in motion to stop the body, or change the direction of its motion. Wind is air in motion, and any substance which presents an obstacle to its progress sustains a pressure, and must either exert a proportional resistance or be carried forward with the body of moving air. Bubbles, balloons, &c., drive before the wind, as they offer little resistance; on the other hand, trees, which resist the force of the current of air, are frequently blown down by high winds; waves are caused by the resistance of water to this

invisible agent, and the propelling of ships by sails depends upon the same principle. Thus we arrive at some idea of the immense power exerted by moving air.

3rd, *Weight.* This may be exhibited by a very simple experiment. Suspend from one arm of a scale-beam, a flask with a stopcock attached, having previously pumped out the air as much as possible; balance the flask accurately, and then open the stopcock; the flask will now sink, having become heavier by the air which has entered, thus proving that air has weight.

The column of air standing above every square inch of the earth's surface, weighs about fifteen pounds, and it is under this enormous pressure on all parts of the human body, equivalent to 30,000 pounds upon an average sized person, that we carry on all our operations. Under ordinary circumstances, however, we are not sensible of this pressure, because the air within the body exerts a similar and equal pressure outwards.

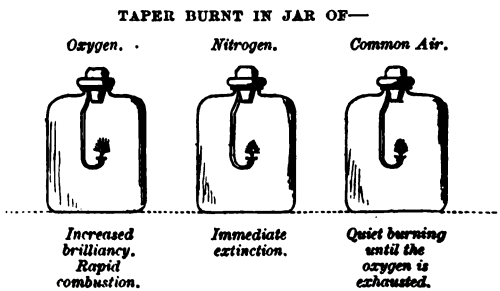
The air at the level of the sea is pressed down by the weight of the mass above it; and if we rise through any portion by ascending a mountain or in a balloon, we have no longer to support the pressure of the stratum of air through which we have passed, and the weight upon the body will be less the higher we ascend; and just as by cutting asunder the cord by which a compacted bale of cotton or other compressible substance is bound, the mass expands, pressing the bag outwards, so the effect of ascending to a great height is somewhat similar; part of the pressure under which the blood ordinarily flows through the veins being taken off, the blood vessels distend, causing the sensation of fulness and swelling frequently experienced by travellers on mountains; and to such an extent does this take place that occasionally the eyes become bloodshot, and blood exudes from the nose and ears; bursting through the delicate vessels, whose sides are not sufficiently thick and strong to sustain the outward pressure of the dilating blood.

The air is a mixture of oxygen and nitrogen in the following proportions:—

	Weight.	Measure.
Nitrogen	77	79·19
Oxygen	23	20·81
	100	100·00

It also contains a small quantity of carbonic acid and a trace of ammonia. Illustrative of the intense activity of oxygen, the doctor prepared several jars of that gas by heating red precipitate (a compound of oxygen and mercury) in a small tube, heat having the power of separating the elements of this substance, and collected the oxygen in a glass jar, the mercury falling in metallic globules into the heated tube. He then placed a piece of ignited charcoal, attached to the end of a wire, into a jar of the gas, and directed attention to the bright ignition resulting; similar experiments were afterwards tried with sulphur and phosphorus with increasingly brilliant incandescence.

To contrast oxygen with nitrogen, the doctor lighted a taper and first plunged it into oxygen, when it burnt rapidly with great force; removal into a jar of nitrogen instantly extinguished it; while in atmospheric air, which, as we have seen, is a mixture of the two gases, the taper burnt quietly and with a steady flame.



Experiments prove that the action of oxygen on life is extremely important and powerful.

If an animal be placed in a jar filled with atmospheric air, but cut off from fresh supplies, it speedily dies; if placed in a jar of nitrogen it perishes immediately; and if placed in pure oxygen its breathing is accelerated; no appearance of exhaustion is manifested, but on the contrary, violent excitement is exhibited.

What changes occur with respect to the gases with which the jars were filled?

In the first jar the oxygen is no longer to be found mixed with nitrogen, but is replaced by carbonic acid, a gas fatal to breathe even in very minute quantities.

The gas in the second jar is unchanged; the animal having no power to breathe the gas. In the third jar, as in the first, carbonic acid gas takes the place of so much oxygen as may have disappeared.

Oxygen, therefore, supports life energetically, and the use of nitrogen is, by dilution, to moderate its action.

In what manner does oxygen act upon the animal being?

By the process of digestion, the crude food taken in at the mouth is prepared for the reparation and growth of the various parts of the body, and this altered matter is poured into the current of the blood on its passage from the remote parts of the system; the mixture then enters one of the cavities of the heart, whence it is distributed over the lungs, and returning to the heart again, is pumped through the arteries into every portion of the human frame. This blood, on leaving the heart, is of a bright red colour (arterial blood), while that which is about to enter the heart (venous blood), after its course through the body, is of a dark purple tint, the change in the lungs being from purple to red, and in the body from red to purple; this brightening and alteration in the colour indicate a change in its character, the importance and manner of which I will endeavour to make clear.

In the case of a common fire, combustion of the fuel does not take place, nor is heat given out, unless there is free access of air,

the oxygen of which is the active agent; in like manner to sustain the warmth and energy of the animal system, a continued combustion is being carried on in every part of the body. All food may be regarded as fuel, and the air in the lungs the active element in the combustion; and as the carbon of fuel is converted into carbonic acid by its combination with oxygen, so likewise a large portion of the food we consume is ultimately changed into carbonic acid, which is principally removed from the body through the medium of the lungs in the act of respiration.

The access of air to the blood, mixed with the recently digested food, is accomplished in the higher animals, as man, quadrupeds and birds, by means of internal apparatus, termed lungs, by the minute subdivision of which organs a large surface is exposed to the air, and the blood flowing through small vessels over the walls of the cavities discharges carbonic acid and absorbs oxygen.

In fishes this aeration is effected by external organs, the gills; the number of folds in these gills having the same effect as the small subdivisions of the lungs in causing the blood vessels to be distributed over a large surface, thus exposing the blood to the action of the air dissolved in the surrounding water which bathes the gills. No doubt can be entertained of the general nature of the process which is carried on, although the intermediate steps may not be well understood. To illustrate the difference in the air before and after passing through the lungs, the doctor inspired air through a tube leading from a jar of lime water, so that all the air passed through the liquid; the lime water remained clear, showing that the air did not contain any perceptible quantity of carbonic acid; but the breath exhaled from the lungs being similarly passed into lime water caused a turbidity, the carbonic acid in the breath combining with the lime and forming chalk, which gave the water a creamy appearance.

In general, from fourteen to eighteen inspirations occur every minute in an adult; the average quantity of air taken in being about twenty cubic inches, so that nearly 20,000 cubic inches pass through the lungs in an hour, or 266 cubic feet daily.

As about ten cubic feet of carbonic acid are daily thrown off from the lungs by every adult person, and as even in small quantities this gas is very injurious, it is most important that in all places where large numbers of persons are accustomed to assemble, arrangements should be made for securing free ventilation, a supply of fresh air, and the removal of this gas so largely sent forth by each person in the act of breathing; otherwise depression, languor, and ultimately death would result.

When the quantity of carbonic acid in the air accumulates beyond a certain point, death from suffocation ensues. Thus, in drowning, carbonic acid cannot be exhaled from the lungs, nor oxygen inhaled, as required for the health and action of the human system; for scarlet or arterial blood is necessary to the due performance of the functions of the brain, and if dark coloured or venous blood be substituted even for a few minutes, it renders the brain insensible to the impressions made on the external organs, and incapable of transmitting the decision of the will to the muscles; and the effect on the brain is such that it may not recover from the influence for half an hour, or even longer. Moreover, the blood, which for a short period does actually pass through the heart, becomes more and more venous in character, and less in quantity than in its usual state, hence on one side of the heart the blood accumulates, and the power of that side ceases by over distension; the other side, from a deficient supply of oxygenised blood, loses its energy, and insensibility soon takes place, terminating in death.

The remedy in such cases is to endeavour to renew the air in the lungs by blowing into them with the mouth or by a pair of bellows, or preferably, by a galvanic shock, which induces a natural inspiratory action, more efficient and not so dangerous as a forcible inflation of the lungs.

This carbonic acid gas, of which we have spoken, is abundantly formed in the fermentation of beer, also in the fermentation of the mixture termed wash, previous to its distillation into alcohol, and is well known to miners as choke damp, from its suffocating property.

The explosive gas, called fire damp, is a compound of carbon and hydrogen, and on ignition the carbon combines with the oxygen of the air in the mine, thus depriving it of the life supporting element, and producing carbonic acid gas, which causes death in a very short period. Hence it is generally noticed in mine explosions, that although ignition of the carburetted hydrogen is the primary cause of the accident, the sufferers are more frequently suffocated than burnt. One melancholy case of death from this cause may be instanced, that of the Black Hole, in Calcutta, in which many human beings perished in a few hours from want of fresh air; and in very recent times instances have occurred of numerous deaths being occasioned by ignorant officers of ships fastening the door-ways of cabins in which, during gales, passengers had sought refuge, no precaution having been taken for the supply of fresh air.

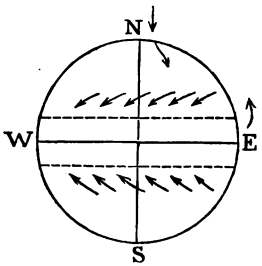
Being a very heavy gas, it may at times be escaped from, should presence of mind enable the person exposed to its influence to climb to some elevated spot, while he has strength; just as in the Grotto del Cane, near Naples, where this gas issues naturally from a fissure in the rock, a dog being thrown in soon becomes insensible, from the absence of atmospheric air, while the taller human being is unaffected; so also in the fermenting rooms of distilleries this gas may be felt as a heavy pressure around the legs, although little or no difficulty in breathing may be experienced.

Trade Winds.

Within the tropics the globe is always subject to the nearly direct rays of the sun, and the intense heat rarefies the air, causing a constant upward current, which flows over on each side towards the poles, the cold air from the poles rushing under to supply the place of the air thus removed upward from the surface; there is therefore a continual interchange between the tropical and polar air.

"It will be evident on inspection of this model of a globe," continued the doctor, that by the rotation of the earth, a point on the equator, before it comes round again to the same position, must

THE DIRECTION OF THE WINDS.



N. *is the North pole.*

S. *the South pole.*

The arrow at E. *represents the hot air rising from the equatorial regions.*

The lower inner arrow at N. *represents the course of the wind from the Arctic regions, to replace the warm air rising from the surface of the earth at the Equator. But as the portions of the globe distant from the equator do not travel so fast as the equatorial portions, the slow North air appears to come from the* N.E.*; hence the winds are called* N.E *trades, and a similar action on the other side of the Equator gives rise to the* S.E. *trades.*

The upper row of arrows represents the N.E. *trade-winds, and the lower row the* S.E. *trade-winds.*

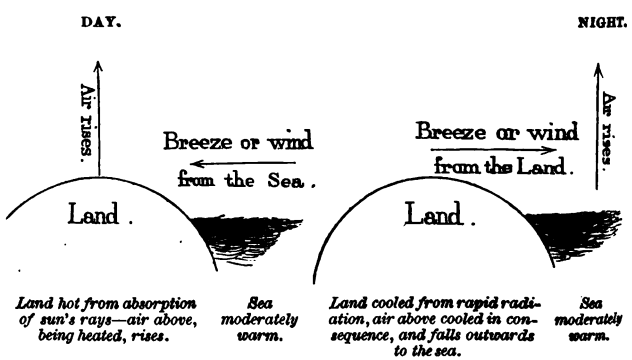
have travelled over a greater distance than any point on the same meridian nearer to the poles; (a meridian is an imaginary line passing through or cleaving the earth in a direction at right angles to any point on the equator; the line N.S. represents a meridian;) and as the air revolves with the earth, the equatorial portions have a more rapid impetus imparted to them than the polar portions; the result is, that the slow polar speed of the under-current of cold air, progressing towards the equator, does not allow it to keep up with the motion of the earth; which, with all on its surface in the equatorial regions, rushes rapidly from west to east; therefore the current of air seems to come from the intermediate or north-east direction on the one side of the line, and south-east on the other side; these breezes, from their uniformity, have been designated trade winds.

On the other hand, the hot air from the equator, as it advances towards the poles, cools and sinks down, but retaining the equatorial impulse it travels faster than the earth in the polar regions, and seems to rush past it; the result being a west wind, which is the prevailing wind in the high northern and southern latitudes.

We have seen that the warmer the air the more moisture it can sustain. Now, the wind coming from the northern quarter, a cold region of the globe, holds but little vapour in suspension; on arriving at a warmer region its capacity for vapour being increased, this air from the north has a tendency to absorb moisture from the human body rather than to impart it, hence its feeling of dryness to the skin, and the absence of rain when it prevails; on the contrary, the south wind, coming from a warmer climate, has imbibed more moisture than it can retain on its reaching our native colder regions, and thus in England we feel it as a soft moist air, and when it lasts for any length of time rain is abundant.

In the southern hemisphere these conditions are reversed; the wind from the northern points of the compass coming from the equatorial regions being now the warmer, and those from the southern points of the compass are the colder, originating in the south polar regions; but as there is much more water in the southern hemisphere than in the northern, the air traversing over the sea towards the equator absorbs moisture in its passage, and consequently the south winds, though cold, are not so dry as the north winds in the northern hemisphere.

LAND AND SEA BREEZES.



In many situations these winds are of regular occurrence, and arise thus:—The land, during the day, becomes more heated than the sea, from its greater absorptive power, and the air above it being thereby warmed, rises, and to supply its place the cold air from the sea rolls in towards the shore, causing the sea breeze.

On the decline of the sun the earth continues to radiate heat, but not receiving new supplies from the sun's rays, the land and the stratum of air above it speedily become cooler than the air on the surface of the neighbouring sea, water radiating heat less quickly; the warmer air over the sea is now the lighter and has a tendency to rise, and the colder air from the land rolls seaward to supply its place, thus causing the land breeze.

* * * * *

I will next proceed to discuss the principles upon which some of the instruments used at sea are founded.

The Barometer.

"Observe this glass tube," said the doctor, it is thirty-four inches long and closed at one end; I fill it with mercury and invert it in this basin, also containing that metal; the mercury in the tube falls to about thirty inches.

Why does it descend, and why does it not descend lower?

The history of this observation, and the discovery of the law upon which the phenomenon depends, are as follows:—

The common pump (which I will describe afterwards) had been known for ages, but that the height to which it possessed the power of raising water was limited, does not appear to have been noticed, until some Florentine engineers, about the year 1649, found they could not by their suction pumps lift water above thirty-four feet from the sea level, and in their difficulty referred the matter to the philosophers of their time for an explanation and a remedy.

It occurred to Torricelli that the then accepted explanation of the cause of water rising in a suction pump, "nature's abhorrence of a vacuum," could not be true, because if true, nature had only a fitful or partial abhorrence of vacuity, inasmuch as however

long the pipe might be, or perfect the exhaustion of air, it failed to raise water higher than thirty-four feet.

He conceived that the power which raised the water would sustain an equal *weight* of any other substance; thus, if a liquid twice as heavy as water were placed in the pipe, it ought only to be raised half as high; if four times as heavy only one quarter the height, and so on in the same ratio. On employing mercury he found that that substance would not rise in an exhausted tube more than thirty inches; now mercury being thirteen and one-half times heavier than water, a column of that metal, thirty inches high, is equal in weight to a column of water of the same diameter, thirty-three feet nine inches (nearly thirty-four feet), in height; it therefore was apparent to him that whatever the power might be, it developed a force equal to the weight of the column supported, of whatever substance that column might be composed.

He suspected that the explanation of the phenomenon was to be sought in the pressure, or as it may more strictly be termed, the elasticity of the atmosphere; and to test the truth of this conjecture two experiments were instituted.

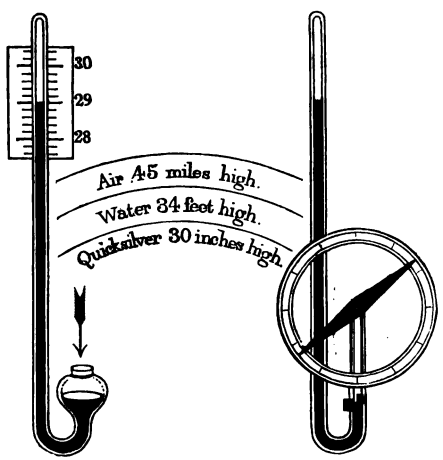
Assuming the active force to be the atmospheric pressure, if the apparatus were carried up to the top of a mountain, the weight of air being less, the mercury balanced by that weight would also be less, and the metal would descend in the tube; and in accordance with this supposition it was found that on Mount St. Bernard the column of mercury fell to fifteen inches, its height at the sea level being about thirty inches.

That it is the pressure of air which supports the mercury in the tube may be further manifested by breaking off the end of the tube, or opening the stopcock, the mercury then ebbs out into the basin, the air now pressing down the inside equally with the exterior mercury; the same result takes place if the whole apparatus be placed under the receiver of an air-pump, by which the air being removed no pressure can be exerted to sustain the column of metal.

Instruments for measuring the tension of the air, and however varied their form may be, the principle is the same, are termed barometers; and from what we have seen it is evident that the mercury not only falls in the tube when conveyed to a height above the sea level, but will vary with the changes to which the atmosphere is subject; hence the use of a barometer as an indicator or weather-glass.

It is the change more than the actual indication which should be attended to; and, as a general rule, it may be taken that the rising indicates fair weather, the falling foul weather. In winter the rise indicates frost; and in frost, the fall, snow. An unsettled state of the barometer indicates changeable weather. A sudden fall indicates a storm; because it shows a rarefaction of the air at that particular place; and by consequence the denser air from the surrounding parts of the globe will rush in to fill the partial vacuity.

BAROMETERS.



The arrow indicates the line of pressure of the atmosphere.

WHEEL BAROMETER.
More minute changes are rendered observable to the eye by the pointer than could be noticed in the column itself.

Wheel barometers have a tube holding the mercury, on the top of which is a float carrying a thread; on the rise or fall of the mercury, the thread moves a small spindle, to which is attached a pointer, which indicates the changes on a dial like a clock-face.

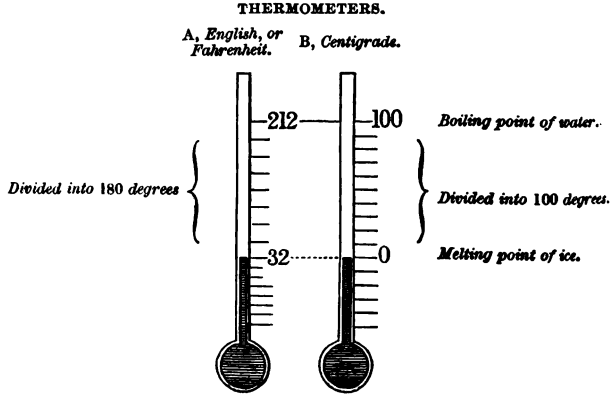
Heat Measurers.

We have spoken of the expansion of water by heat, I will now endeavour to explain the instruments by which we measure the force of heat. They are termed thermometers.

The melting of ice, and the boiling of water at the sea level, afford convenient standards for the measurement of heat.

This measurement is now usually effected by means of mercury in a small closed tube connected with a bulb reservoir, the expansion and contraction of the mercury measuring the increase or diminution of temperature.

The space which the mercury traverses between the melting point of ice and the boiling point of water is divided into 180 degrees, or parts, in English thermometers; and into 100 parts in the thermometers used on the continent, and therefore termed centigrade.

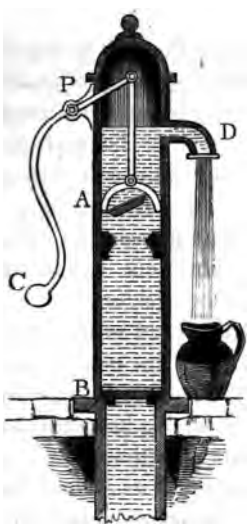


Thus, if the upper black line represents the height at which the mercury would stand in both tubes, if they were plunged into boiling water, the height if placed in melting ice being marked by the dotted line, the intervening space in A, the English, also called Fahrenheit's thermometer, is divided into 180 parts; and in B, the continental or centigrade thermometer, into 100 parts; five degrees of centigrade are therefore equal to nine Fahrenheit.

It should also be observed that the notation of the Fahrenheit thermometer begins at a lower point than the melting of ice, whereas the centigrade reckons from that point.

	Fahrenheit.	*Centigrade.*
Scale begins - - -	32 below freezing	At freezing.
Freezing point - -	32 on the scale	0 on the scale.
Boiling point - - -	212 on the scale	100 on the scale.

THE COMMON PUMP.



Shewing lower valve closed. The upper valve descending is open, allowing the water to pass upwards.

By sucking a piece of tobacco-pipe or straw, one end of which is placed in water, the air from the interior is withdrawn, and the liquid flows up into the tube so exhausted of air.

The common pump depends for its action upon this principle.

From what has been previously said in reference to the barometer, it results that if we exhaust a closed tube, one end of which is inserted in water, the pressure of the air in the interior of the pipe being removed, the exterior pressure of the atmosphere will force up the water to fill the vacuity; and this will continue until the water balances the atmospheric pressure, which it does when at the height of thirty-four feet in the exhausted tube.

Let A be a close piston, with a valve attached by a hinge; the piston connected by a rod with the handle C, working over a pivot P, and B a fixed collar with a valve, placed lower down the tube. By pressing down C we raise A, and a partial vacuum is caused between A and B, and the pressure of the exterior atmosphere causes the water to push up the valve B, and fill the intermediate space; on the ascent of the handle C, A descends, and the water between A and B closing the hinged valve at B by its weight, can only escape by pushing open the valve A, and passing upwards; and on the pump-handle being again pulled down, the water above closes the valve A, and being lifted up by the valve in its ascent flows out through the pipe D, and so on at every stroke. This kind of pump cannot raise water more than thirty-four feet above the sea level.

The Compass.

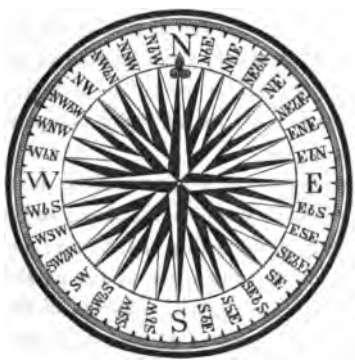
A certain mineral, whose chemical analysis shows it to consist principally of two oxides of iron, with a small quantity of quartz and alumina, possesses the power of attracting iron towards itself, or rather the two substances may be said to be mutually attractive. This mineral, the loadstone (Marinette or mariner's stone, as the minstrels sang it), originally found in Magnesia, in Asia Minor, whence its name, magnet, being placed in a small basin and floated on water or mercury, turns one end in the direction of the pole and the other towards the equator.

This power of assuming a certain position, and of attracting iron, may be conferred upon several substances; the most important and useful being steel, especially that of fine grain, uniform in structure and free from flaws, such steel retaining its magnetism for a long period. Magnetic batteries are sometimes made so powerful, by combining several magnets, as to lift more than four hundred pounds weight; and when formed by induced magnetism, developed by a powerful galvanic battery, the strength is enormously increased.

The magnetic force manifests itself as twofold in its character, familiarly known as north and south polar magnetism; each having the peculiar property of attracting the contrary and repelling similar magnetism. Thus the north pole of one magnet attracts the south pole of all other magnetised bodies, and repels all north poles.

Magnetism may be conferred upon certain bodies temporarily, without contact, by the influence of what is termed induction, by placing them near magnetised bodies, and to exhibit this effect soft iron, as the most easily susceptible of magnetism, may be conveniently used. It is probable that all magnetic phenomena result from the inductive action of the earth itself, which is a powerfully magnetic body; but this may perhaps be more apparent after we have considered the principle of the mariner's compass.

The compass consists of a magnetised bar of steel, termed the needle, turning freely on a pivot; a card is placed above and fastened to the needle, with which it therefore moves, and this card is divided by black lines into thirty-two points.



COMPASS CARD WITH POINTS.

This instrument is placed in a box covered with glass, the whole swinging with perfect freedom, and preserving a horizontal

position, whatever inclination may be given to the ship by the waves. A black mark or line in the box shows the line of the keel or head of the vessel, and the point on the compass touching this mark indicates the direction in which she is sailing. The thirty-two points are as follows; and to be able to repeat these points rapidly in proper order is one of the first lessons of an apprentice, and is called "boxing the compass."

North	South East by East	West South West
North by East	South East	West by South
North North East	South East by South	West
North East by North	South South East	West by North
North East	South by East	West North West
North East by East	South	North West by West
East North East	South by West	North West
East by North	South South West	North West by North
East	South West by South	North North West
East by South	South West	North by West
East South East	South West by West	North

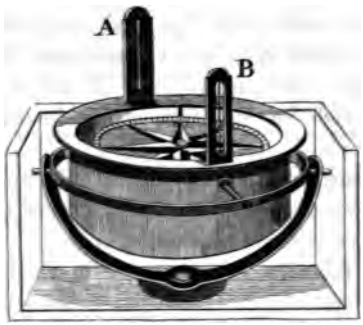
At first it might be supposed that the compass points true north and south, but this is not correct; the magnetic poles not being in accordance with the north and south poles of the earth; and the difference is known as the variation of the compass.

To detect these variations recourse is had to the Azimuth compass, a modification of the ordinary compass, and which we will now describe.

By observation astronomers have arrived at the knowledge of the exact bearings of the sun from all places on the earth's surface, at its rising and setting, every day in the year; and from this starting point the variation of the compass at any particular spot may be deduced. Thus, supposing the true position of the rising or setting sun to be known, if the traveller finds that by his compass the sun does not rise or set in the true astronomical direction, then he is also perfectly sure that the angle of difference is the error of his compass in that place.

All that is required to be done is to observe carefully the

direction of the sun at the moment of its rising or setting; the latter is generally chosen, being more easily watched.



AZIMUTH COMPASS.

The centre of the sun's disc is cut by the wire in B; and the compass being fixed by a stop at the moment of observation, shows the compass direction of the sun at setting; the true astronomical direction is found from the published tables: the difference is the variation at that particular time and place.

The centre of the sun is brought in a line with the fine wire in the centre of the upright frame B; the eye of the observer being placed at A, a stop fixes the compass at the moment of observation for careful reading off subsequently, and the point of setting indicated by the compass, compared with the astronomical direction, gives the variation of the instrument. This variation of the needle from the true north and south poles of the earth is about 24° west, at London, and 5½° at Boston, in the United States.

Besides the tendency of the needle to point away from the earth's north and south poles, notice of another singular property should not be omitted,—I refer to the dip.

If a magnetised needle be supported on a pivot, and allowed free vertical play, it will assume a position inclined to the horizon, varying greatly in different parts of the globe.

Thus Sir J. Ross found the dipping needle to stand vertical in 70° 5′ 17″ north latitude, and 114° 55′ 18″ west longitude; this point is termed the magnetic pole; the corresponding pole in the

southern hemisphere, where the needle would assume a perpendicular position, is calculated to be in 72° 35′ south latitude, and 152° 30′ east longitude.

In London the needle now dips at an angle of about 69° 30′; and curiously to think upon, this variation and dip undergo great changes; the dip which in 1773 was 72° 19′ in London, is now only 69° 30′; and the variation, which increased until 1818 to 26° 30′ has since decreased.

The mutual attraction of the magnet and iron, it is evident, must seriously interfere with the indications of the needle, when large quantities of iron are near the compass.

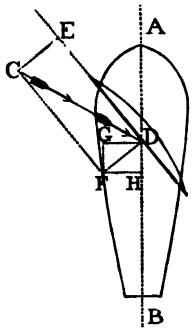
As, however, this force obeys the law to which so many other physical forces are subject, of the power being inversely as the square of the distance; in other words, a powerful disturbing force, acting at a foot distance from the needle, if removed to a distance of ten feet would only operate with one hundredth part of the power, and so on; we have the means of ascertaining the amount of error by placing a compass high up above the deck, as for instance in the maintop, where the disturbing action of the whole hull of an iron vessel would be very small, almost nothing; whereas the influence of the great body of the earth remains the same, and thus the magnet would assume the position which it would take if iron were not present.

Other interesting points on this subject might be noticed, but I will not weary you.

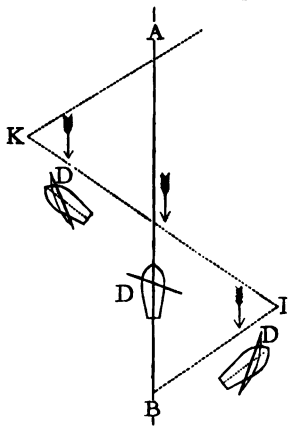
I will now attempt an explanation of the motion given to a ship by the action of the winds. This depends upon a mechanical principle that may be thus stated: *the direction in which a body moves is the resultant of all the forces acting upon it.*

If air in motion is travelling in the same direction as it is desired the vessel should go, the force of the wind acting on the sails propels the ship, and the advance is in the ratio of the strength of the wind and the quantity of canvass spread, to the weight of the ship and cargo.

By close hauling, or bracing up the yards as it is termed, a vessel may be made to move towards a point very different from that to which the wind is travelling; thus, suppose the wind to blow in the direction from C to D, and a sail to be placed in the direction D E; let C D represent the force of the wind, and complete the parallelogram, having the side E D parallel to the sail, and D F perpendicular to it. The force of the wind represented by C D is equal by the laws of mechanics to two forces, one applied in the direction and represented in amount by C E, or F D, and one by C F or E D. Now it is evident that E D does not help to push the ship forward; all the progress must depend upon the force exerted by F D, but F D is itself not in the line in which it is desired the vessel should move, and by the same law of mechanics the force (F D) may be resolved into two—one as F H thrusting the ship sideway, the other F G (or H D, equal to F G) propelling the vessel in the line B A; and thus F G or H D represents the whole beneficial result from the force of wind represented by C D.



SAILING ON A WIND.



TACKING.

But should the wind be more adverse, recourse is had to tacking, and a great deal of sailing results in very little progress. Let us see how this occurs.

Should the wind be coming from A to B it cannot fall upon the sail D so as to cause it to propel the ship forward; but by altering the vessel's direction from B A to B I, the wind may so blow upon D as to move the ship onward to I; on arrival at which point, by again tacking, and sailing to K, the wind now striking the ship and sails from the other side, and so continuing to change the tacks, the point A may be at length reached, but only after much extra distance has been traversed and time lost.

* * * * *

The interest created by this lecture was kept up by the doctor's subsequently conducting a class for the study of his favourite science; and with the aid of the ingenious ship's carpenter, he constructed several apparatus to illustrate his instructions; and before landing many of the passengers had acquired much valuable knowledge of the leading principles and facts of chemistry, electricity, and galvanism.

NOTE TO PAGE 67.—Strictly speaking, steam generated at 212° under the ordinary pressure of the atmosphere, occupies about 1700 times the space it filled when in the form of water. The experiments of Watt gave the result of one cubic inch of water yielding one cubic foot of steam, or 1728 inches.

TABLE BAY AND CAPE TOWN.

CHAPTER VIII.

AFRICA—THE CAPE OF GOOD HOPE.

"In me the spirit of the Cape behold,
That rock by you the Cape of Torments named,
By Neptune's rage in horrid earthquake framed,
When Jove's red bolts o'er Titan's offspring flamed.
With wide-stretched piles I guard the pathless strand,
And Afric's southern mound unmoved I stand;
Nor Roman prow, nor daring Tyrian oar,
E'er dashed the white wave foaming to my shore.
Nor Greece nor Carthage ever spread the sail
On these, my seas, to catch the trading gale.
You, you alone have dared to plough my main,
And with the human voice disturb my lonesome reign."

LUSIAD.

AT noon we were, by observation, sixty miles distant from Cape Town, and two hours afterwards the pleasant sound of "land ho!" passed through the ship; and scanning the horizon we de-

scried far off on the lee bow the dim mountains, looming out of the sea, in form as of a crouching lion, guarding its native domain.

Gradually becoming more distinct, the two high lands, so well known as the Lion's Head and Rump, were approached; and the broad flat Table Mountain, against which Cape Town rests in quiet repose, opened out to view between the Lion's Head and the bold craggy cliffs of the Devil's Peak.

Piloting our way by lead and eye, for night rapidly advanced, the good ship rounded the Lion's tail, formed by the long low slip of land called Green Point, jutting out into the sea, and the Petrel's anchor was dropped about a mile from the shore, on which the many twinkling lights told of the habitations of man; and we seemed as by a resurrection to have returned to the world of our fellows.

Far up on the right of Cape Town other thousand glowing lamps suggested that a new city had arisen unknown to former visitors. It was the Mahometan city of the dead, whither, at the festival of the Ramazan, the living resort in grateful recollection of the departed faithful, and illuminate their tombs with lamps, and anoint the headstones with oil.

Off Cape Town we lay for some days, during which we several times witnessed that curious appearance exhibited by Table Bay, of one portion being calm and quiet as a lake of glass, while at a few yards distance a hurricane may be blowing in all its fury.

This phenomenon arises from portions of the Bay being protected from the influence of violent inland winds by the mountains immediately surrounding Cape Town; whereas the gullies or openings between the mountains form outlets or tubes through which the wind rushes with accelerated force, the line of demarcation between heavy squall and dead calm, being almost mathematically defined. To prevent ships drifting to sea a second

anchor is frequently dropped, royal masts housed, and the lower yards pointed to the wind.

Cape Town, with its hot dusty streets, running formally at right angles to one another, walled in with lines of whitewashed houses on either hand, is less agreeable on close acquaintance than pleasing from its water view, or as seen from one of the neighbouring mountains, the Lion's Rump for instance, whence a noble prospect is obtained of Table Bay and the town, the sweep of ocean to the horizon, the distant mountains far off in the interior, and at the rear of Cape Town the nearer Table Mountain, on whose summit or adown whose sides the white mist and rain clouds linger, or roll in masses, becoming to the practised residents, as it puts on or removes its cloudy table-cloth, or stands uncovered, a grand natural indicator, by observing which the approaching weather is known. "The cloth is on the mountain," they will say; "we cannot do so and so to-day."

The mingled population of English, Dutch, Malays, and Africans, with their different customs, manners, and modes of dress, affords a large fund of amusement and instruction to the resting voyager.

Not cognizant of the rotundity of the globe, the ancients believed, from the increase of temperature as they advanced towards the south, that the limit of endurance would be arrived at, and imagination conjured up vast impassable regions of flame, in which only salamanders could exist. By slow degrees adventurous navigators dispelled these phantasies, and pushed their researches further and further along the African coast, until they resulted in the discovery of its limits by Bartholomew Diaz, in 1486, and the weathering of its most southerly point by Vasco de Gama, in 1497.

This sailing round the much dreaded Cape of Storms, or Lion of the Sea, as it was termed, solved the problem of an eastern sea route to India, and the Portuguese monarch gave to the land

time newly circumnavigated by his brave countryman, the encouraging title of "The Cape of Good Hope," which it has ever since retained.

About the year 1652, the Dutch, then rising into the first rank among maritime nations, having overthrown the Spanish yoke, colonised the Cape, for the purpose of supplying vessels with refreshments on the way to and from their Indian territories.

Possessing two ports, Table Bay, well sheltered in one season of the year, and Symon's Bay in the other season, and being well adapted for the production of corn, the grazing of cattle and sheep, and the growth of the vine; prolific also in dates, figs, and vegetables of all kinds, the colony rapidly rose into the importance which it retains as a port of call for vessels from Europe to the east.

In September, 1795, the colony was taken by the English, and restored to the Dutch in 1803. On the 8th January, 1806, it was again taken by Sir David Baird and Sir Home Popham, and in 1814 was ceded to Great Britain, in whose possession it remains. Being a colony of Dutch people, it is not quite clear upon what ground the place was retained, except

> The good old rule,—the simple plan,
> That they should take who have the power,
> And they should keep—who can.

If convenient to the Dutch as a refreshment depôt, it could not be less so to the British ships sailing eastward.

The exportation of wool to England has gradually and largely increased: besides which the Cape colony carries on an extensive export trade to the Mauritius in butter, corn, and other produce.

In the season, cattle-wagons from the up-country farms convey to Cape Town wool and wine; and these rough strong wagons have to be dragged over roads which never dreamed of Macadam, and through dense sand drifts.

To accomplish such journeys, as the farmers possess cattle out of number, and small wiry horses in abundance, it is not at all unusual to see twenty or twenty-four fine black oxen or small horses, two abreast, attached to one of these picturesque strongly-built vehicles. A Hottentot, mounted on the box, holds the reins, while a companion sits by his side flourishing a tall bamboo rod, to the end of which is fastened a long hide-thong; and with peculiar skill, energy, and self-complacency, this "whipper-in" exercises his function of arousing the attention of any idle, non-exerting horse or ox.

Assembling on board the last evening of our stay, for we purposed sailing the following dawn, we sat and talked on deck in the cool clear moonlight, which shone on the glistening waters of the spacious bay, and played with a calm sober whiteness on the houses of Cape Town; the background of the great mountains with their intense shadows throwing up with sharp distinctness the rows of white buildings composing the city.

The faint outline of Robben Island, the home of Cape convicts, we could just trace seaward; and the solemn quietude of the night was disturbed only by the splash of oars, as visitors to the shore returned to their anchored vessels in the bay, and by the sonorous ring of the many ships' bells striking the half-hours, as they rolled round.

Our thoughts and conversation turned upon the land of our temporary sojourn, and in imagination we coasted round Africa, scorched with the warm kisses of hot Sol, and discussed its various points of attraction.

Foremost stands Egypt, cradle of civilization, nurse of the sciences, whose history, like its own Sphynx, is an eternal enigma, and of an interest as teeming as the prolific life of its own Nile valley. Gazing upon a resplendent starry sky through a dimless atmosphere, the motions of the heavenly host were noted by her vigilant night-watchers; and the annual obliteration of land

boundaries by the overflowing of the Nile induced the accurate study of the relations of lines, angles, areas, and quantities; and

THE SPHYNX AND PYRAMIDS.

the geometrical principles established and taught by Egyptian sages have become part of the learning of all time.

Nor were the arts less cultivated; Egyptian architecture of colossal proportions, imbued with a solemn believing spirit, has been the wonder and admiration of every succeeding age; and how grateful must have been the retreat from the intense glare of a cloudless noon-day sun into the dark shadows and recesses of the massive temples, over whose portals the mysterious winged globe and asp, emblems of the power and wisdom of the Eternal God, proclaimed to all, the living faith of the temple builders; whilst the rich harmony of the colouring, and the serene repose of the majestic statues which adorned them, testify of the power to realize the sublime daring conceptions of genius.

Agricultural plenty blessed the happy land; so much so, that the liberated Israelites, forgetting their hard toil in slavery, loathed the "bread of heaven," and desired the fleshpots of Egypt; and

"corn in Egypt" is to this day synonymous with abundance; and sayeth the proverb of the waters wherein dwelleth Behemoth, "he who hath not drunk of the sacred Nile hath not known happiness."

As the volume of time unrolled, the grandeur of Egypt declined—succumbing to the prowess of Alexander. It afterwards became a province of the Roman Empire; yet in decay, its genius assuming the form of the queen of beauty, blazed forth again for a moment, scattering a dazzling radiance on one more page of its singular history. Associating to herself all the gorgeous tasteful appliances of Eastern luxury, with music and gleesome attendants, in her gilded barge, propelled by silken sails and silver oars, Cleopatra, conscious of her power, went forth to meet the stern conquerors of savage Scythia, warlike Gaul, and fierce Britain; and successively these loftiest, hardiest Roman warriors forgot duty, patriotism, and their own high heroic fame, and yielding to her all-powerful fascinations, spent whole years in the heaven of voluptuous pleasure.

And now—fallen how low!—the dwellers among these mighty relics, the beauty of whose ideal they do not comprehend, contentedly live in utmost ignorance of their history.

The passenger who had thus spoken had scarcely concluded, when a youth, whose family was emigrating just at the period of his retirement from a public school, exclaimed, "On the north coast of this Africa stood Carthage, founded by that classic queen, Dido, about whom Virgil wrote so many puzzling verses. Long the rival of Rome, this Tyrian colony contended with her for the mastery of the seas and the sovereignty of the world; the heel of the Roman, however, at last pressed it out of independent existence. No thanks to Master Eneas and Mistress Dido for the many troubles I have seen on their account. The ancients seem to have lived only to puzzle us boys with, what Doctor Plumo said I should never accomplish, the 'scanning' of their interminable

lines in praise of mythical heroes. Small good to me, I ween, even had I succeeded in tripping the measures elegantly to his perfect satisfaction. And then the long histories of their everlasting wars, in which now the Romans invaded Carthage,—and now the Carthaginians invaded Italy,—swaying to and fro with alternate success, like a rolling ship, first a-port and then a-starboard. More pleasant far to read the wars of Napoleon, or the sea-fights of Nelson, 'Robinson Crusoe,' 'the Last of the Barons,' or 'the Pathfinder,' by the aid of the candle provided by our good friend and favourite the housemaid Mary, and which we hid in our box amongst our shirts, and lighted when the masters had retired to bed."

"You naughty, sarcastic fellow, Charles," said the last speaker's sister, to talk so disparagingly of those ancient writers, from whom have been derived, papa says, nearly all the noble thoughts which have actuated heroic, patriotic men in modern times. And however slightingly you may speak of this northern part of Africa, it is worthy, in my opinion, of particular remembrance as being the region in which St. Augustin lived and laboured.

The influence of his mother, Monica, a woman of sterling goodness, added to the ministry of St. Ambrose, enlisted the talents of the young orator in the cause of Christianity; and thenceforward this ornament of the church laboured in Africa, where he was born; his genius, unwearied zeal, and truthfulness, powerfully tending to spread the doctrines of the cross; and successful in his lifetime by his eloquence, his written works have exercised no less an influence in following ages. The Vandals, overrunning Italy, next invaded Africa; and the aged prelate, refusing to quit his flock and escape by flight, and fearing that Hippo, whose bishop he was, might fall into the hands of the enemy, prayed that God would free his servants from their foes, or take him from the world unto himself. During the third month of the siege this last prayer of the venerable saint was

answered, for he died; and such was his fame that the rude conquerors, when they took the town, spared his library and works.

"What a parson you would have made, sister," said Charles, as he impressed half-a dozen kisses on her lips.

"I fear you will never be a St. Augustin, Charley," said the boy's father, laughing.

"On the general breaking up of the Roman Empire," began an old half-pay naval officer, the native inhabitants of this fertile country of Northern Africa, rich with corn harvests, with well-planned Roman roads, and colonies, recovered their possessions, extending from Atlas, with cloudy brow and sandy feet, outwards to the sea. In turn they were harassed and conquered by Arab hordes. Mounted on fleet horses, and armed with lance and spear, these sons of the desert, to-day unseen and unexpected, at night scourged and swept towns and villages; on the morrow a cloud of dust on the mountains, rising towards heaven in the bright sunshine, alone betrayed the proximity of these Pegasian centaurs. The expulsion of the Moors from Spain greatly increased the Mahometan power in Africa, and these ruthless Vikings of the Mediterranean became the deadliest enemies of all Christian captives No fewer than twenty thousand Christian slaves were liberated on the destruction of Tunis, by Charles the Fifth, in 1535; and when driven by the conqueror from that place, the Turkish followers of Barbarossa retreated to Algiers, their hand being against every man. The horrors of Algerine slavery, so eloquently set forth by St. Vincent de Paul, and Cervantes, aroused the indignation of Europe; and several attempts were made with varying success to put an end to the piracy and slavery of the Algerines. At last the grand attack made by Lord Exmouth, on the 28th August, 1816, ended in such a complete discomfiture of the barbarous hordes, as to compel the cessation of the practice.

Some evening I will relate to you all the particulars of that

fight; we gave it the enemy right well I can assure you; it was hot work while it lasted, and our noble Admiral, generally a mild man, showed himself a perfect fire-eater on that occasion.

The brave old sailor was evidently warming with his recollections, and he would doubtless have then

"Fought his battles o'er again,"

for our edification, had not a young girl of the company diverted his attention by inquiring whether, in the course of his cruises on the African coast, he had ever met with the female warriors of whom she had recently been reading?

Tradition, continued the officer, had left accounts of nations of female warriors, Amazons, but the relation had been deemed mythical; it was reserved to Africa to present to the world the living reality. Although I have not personally seen them, several officers of our service, in their communications with the black nations of Africa, have become acquainted with the extraordinary fact that one portion of the army of the king of Dahomey is composed of some thousands of Amazons. These female foot-guards, fully equipped as soldiers, with bristling musket, sword, and club, ornamented with ribbons, and adorned with human skulls hanging from the girdles of their scarlet tunics, have their female officers, who are furnished like the male troops of the same country, with stools of office, drums, colours, and umbrellas adorned with skulls and jawbones.

"Ferocious as tigers, these Amazon warriors, whose milk is gall, delight in the immolation of prisoner victims, hundreds of whom are sacrificed to gratify the desire for blood by the multitude, who, on public occasions, with loud yells demand of the king to be fed with death, for they are hungry. The blood of the victims is sacred to the Fetishe, or God, the head to the king, the body belongs to the army; and these are pretty well all the particulars I can give you of this curious army.

"From all I can gather, remarked the supercargo, we are under a great mistake with regard to this continent.

Central Africa, hitherto supposed to be full of

"Antres vast and deserts wild,"

has been ascertained by recent travellers to possess rich streams flowing through fertile vales, abounding in animal life; the springing lion, stately elephant, snorting zebra, and the heavy hippopotamus, with herds of the graceful spring-bok; gaily plumaged birds thickly people the forest trees, and the rivers teem with fish of various kinds; in fact, the interior of this hitherto inaccessible continent promises to open out rich sources of commerce, and mutual advantage to its rude inhabitants and to civilized man.

And if the reports be true in reference to coal, I think before long I shall try a speculation in that article from the east coast rivers, with a view to the supply of our growing Indian steam fleet with that necessary article.

"Amongst the animals, chimed in a little fellow who had been attentively listening to the conversation, you have forgotten the big cattle, of which we have seen so many used in drawing the wine-wagons, and the funny sheep whose fat is all in their tails. The tail of the one our butcher killed this morning weighed ten pounds, a solid lump of fat; and the storeman said that sometimes, when very fat, the farmers fit little wheeled carts for the sheep to carry their tails on, but perhaps that was a joke. I wonder he did not say that they sometimes made wheelbarrows for the long noses of the elephants.

A pause ensued, broken at last by the Minister, who had been for some time sitting in thoughtful silence.

"Strange to think, said he, that at the very time that all Europe was standing aghast at the horrible tales of Europeans being doomed to slavery in Africa, in another part of that continent the converse was being enacted with tenfold cruelty.

After the discovery of America and the West India islands, the

aboriginal inhabitants were speedily for the most part either destroyed in war or worked to death by the fierce conquerors who, being themselves unable to endure the heat of the climate, and perform the rigorous labours demanded for the mining and field operations necessary to realize those dreams of riches which had instigated their invasions, regarded Africa as a hunting ground, or preserve, whence to procure human beasts of burden; and thousands of negroes were yearly torn from their homes with violence; homes still, rude as they might have been; and made to serve with bitter bondage. Parents separated from children—husbands from wives—brothers from sisters.

Not content with men-stealing themselves, the slavers tempted and urged on the native tribes to wage war upon one another for the purpose of making prisoners to sell into slavery.

Packing the wretched beings as bales of goods, not even regarding them as air-breathing animals, the horrors of the 'middle passage,' as the voyage from Africa to America was termed, caused the death of a large proportion of the slaves.

The outraged sympathies and feelings of many Christians in England were at length aroused by the iniquities of this source of wealth; and, after a lifetime spent in the agitation of the question, the noble band of men who had devoted themselves to the removal of this blot on the nation, achieved the high moral result of inducing the British people and parliament to buy up and liberate all the slaves in the possession of English colonists; and the unexampled spectacle of a nation taxing itself to the amount of twenty millions sterling to accomplish the pure purpose of liberating captive men, without committing pecuniary injury upon the slaveholders, was exhibited in the year of God's grace and Britain's glory, 1833.

By an Act of the British parliament, dated the 28th August, 1833, was this great social question settled, and the twenty millions of money appropriated amongst the following nineteen

colonies, in proportions according to the number of registered slaves, and the average price in each colony.

Bermuda Islands	Jamaica
Bahama Islands	Honduras
Virgin Islands	Antigua
Montserrat	Nevis
St. Christopher's	Dominica
Barbadoes	Grenada
St Vincent's	Tobago
Saint Lucia	Trinadad
British Guiana	Cape of Good Hope
Mauritius	

Upwards of 630,000 slaves, after varying short terms of apprenticeship, were made absolutely free; in consequence of this legislative enactment, unique in the World's History, at an average cost to Great Britain of about thirty-one pounds per human body and soul; and the plain Saxon of the Act says, that 'from and after the said First day of August, 1834, Slavery shall be and is hereby utterly and for ever abolished, and declared unlawful throughout the British Colonies, Plantations, and Possessions abroad.'

The work, I regret to say, is only half done—not half done—for while one portion of Christendom has repudiated slavery, others have not only reconciled themselves to the existence of the fact of slavery as a disease or an evil to be removed as quickly and judiciously as possible, but have cordially embraced, strenuously defend, and lovingly cherish the evil as their good, and 'believe the lie.'

Oh! American brothers, continued the Minister, in his enthusiasm, Why will you not follow England's glorious example? Until that happy time, furl your spangled banner, lower it to half-mast for a while, paint those stars darkly with blackest Styx, crape them in deepest mourning, nor longer let those fair emblems

of purity and light range side by side with the red stripes of blood.

Shame not with such fruit the noble principles of your pilgrim fathers, who, for conscience sake, sailed 'Westward Ho!' they knew not whither, taking joyfully the spoiling of their goods, and singing with holy decision,

'We never will bow down.'

And thou, proud Spain! eldest, Most Faithful daughter of the Catholic Church, can the vicegerent of God teach thee no better than to barter human woes for gold, blurring beauteous Cuba with foulness?

Extreme Protestant America, in whose hand is the "little book open," is it not written therein that "God hath made of one blood all the nations of the earth;" and though the written book is priest-clasped to thee, extreme Catholic Spain, God's First Volume of unbound Nature is open to all, and therein thou mayest learn that the fair orange blossom spreading forth its pure beauty towards heaven, yet crusheth not out the dark blood of the lowly violet.

On that day which cometh to man once in the space of mortal life, when the heart is tuned to heaven's music, my soul's ear caught the tones of that happy harmony ever rising from the rolling spheres, hymning praise to the Eternal. In one sublime movement of that rich flowing song, the accents melted away to a delicious rest. Just then a piercing wail, "Oh, Lord, how long!" from five millions of bond slaves, disturbed that holy pause, and the choir of myriad attendant angels, over whose being a quickly passing celestial gloom cast its shadowy mantle, turned with earnest look and drooping wings towards the throne of God, whence, amidst the saddest silence of the Almighty's thunders issued a voice,

"Vengeance is mine, I will repay it!"

And the hosts of God bowed low in reverent worship.

THE GREAT HARRY.

CHAPTER IX.

AT SEA—THE SECOND OFFICER'S SKETCHES—VESSELS OF ALL TIMES.

"Strangest of all,
Towered the Great Harry, crank and tall;
With bows and stern high in the air,
And balconies hanging here and there,
And signal lanterns and flags afloat."

LONGFELLOW.

OUR second officer was the model of an English gentleman and

seaman, handsome, intelligent, quiet, cool, and bold; and under such a tutor it was very natural that the fair voyagers should embrace the opportunity afforded by our passage through a clear tropical atmosphere to prosecute their astronomical studies, although by some mysterious process it invariably occurred that their evening inquiries concerning Rigel, Betelgeux, Cassiopeia, the Great and Little Bear, the Milky Way, or the Magellan clouds, became intermingled with equally agreeable discussions upon subjects nearer than the stars.

With assumed gravity he stated that his adoption of a seafaring life had arisen from an extreme sensitiveness either on his own part or that of his father, he could not exactly say which: his father, a clergyman of the Established Church of England, had been desirous that Tom should follow the same profession; but Tom, whenever he could escape from his prescribed studies, was sure to be found rambling about the harbour of the seaport included within the extensive boundaries of his parent's large parish.

In vain the good man reiterated his objections to the sea; but what was to be done, said the merry-hearted officer, as he reclined over the ship's side, discoursing with some fair damsel upon the radiant stars swiftly sailing in the sea of heaven above us and reflected in the glittering phosphorescent waters below; I never could get beyond "Dearly beloved" in the prayers, without resting; which beseeming pause, in my opinion, the governor construed into a wicked halt, saying that I made the young women titter. At last the good old gentleman, God bless him, told me I was an incorrigible fellow and must go my own course, and so he dismissed the thought of my becoming a clergyman, much to my satisfaction.

Now you do not expect me to believe all that, replied the young listener.

Half a point to windward of your course, called the officer to the steersman; mind your weather helm.

"Aye, aye, sir," echoed the man at the wheel.

* * * * *

Then you will permit us to inspect your portfolio, pleaded the fair speaker. I am sure you will not refuse.

It contains nothing but rude sketches of ships, copied from various sources, as I may have happened to meet with them, replied the officer.

And what more interesting to us than ships and their crews, added the sparkling-eyed girl, with sly emphasis.

As you so command, rejoined the officer, my scraps shall be at your service to-morrow evening, with such explanatory notices as in my reading and observation I may have thought worthy of being jotted down; and the gallant sailor, as the attractive astronomer descended the companion-stairs, raised his silver-banded cap, and lovingly wished her pleasant rest, a rather impossible matter, while she heard his footsteps overhead as he paced the deck in the first watch.

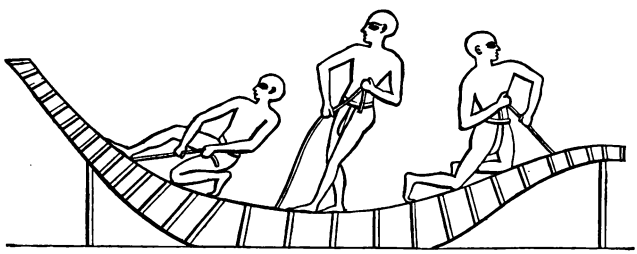
The following evening, while we were seated around the large table in the saloon, the promised portfolio was produced; and during the examination of the drawings the skilful draughtsman read from his note-book the following memoranda, in illustration of the subject and the sketches.

Egyptian Boats.

"All the learning of the Egyptians," such is the testimony of Sacred Story to the civilization of Ancient Egypt, abundantly confirmed by Profane History; and if we except the claims of the Chinese, who, in all cases, have a convenient handful of centuries to throw into the scale whenever the period of any invention or discovery is in question, we may assign the birth of science,

commerce, and navigation to this central junction land or key-stone of three continents. By means of the paintings on the tombs of the Egyptian sovereigns, modern travellers have been enabled to ascertain some of the particulars of their maritime affairs.

It appears that many of the boats used by the ancient Egyptians were made of osiers, bound together with bands of papyrus stalks. Pliny informs us that the materials used in Egypt in the



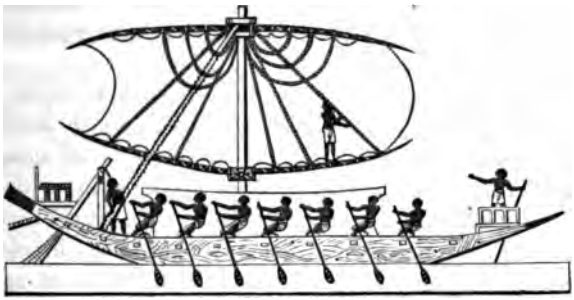
MAKING AN OSIER BOAT.

manufacture of boats were the papyrus, rush, and reed; and vessels of bulrushes are mentioned by Isaiah; nor will it be forgotten that Moses is stated to have been exposed in an ark or boat of bulrushes.

It appears also that the war-galleys were manned by a part of the military class amongst the Egyptians; a certain number of whom was specially trained to this service; and it should be remembered that in ancient times the distinction which now obtains between naval and military leaders did not exist.

These galleys had on each side throughout the whole length of the vessel a wooden bulwark sheltering the rowers, the handles of the oars passing through holes in the lower part; archers were placed in the raised poop and forecastle, and the cachesium, or

crow's nest, at the top of the mast, was generally filled with slingers.



EGYPTIAN WAR GALLEY.

On advancing to meet the enemy, the sail was used until within a short distance of the foe, and then reefed or furled; the rowers now plied their oars, propelling the galley towards their opponent, the steersman endeavouring to strike with the bows the side of the enemy's vessel.

Some of the war-canoes had many rowers, and were furnished with a large square sail, and the mast, originally constructed of two limbs of equal length, was afterwards composed of one tall piece.

The Phœnicians.

Dwelling in a prolific valley, through which ran the silvery stream of the Nile, as the spinal marrow of the land, conferring abundance and vigour on the nation, the fluviatile Egyptians did not cultivate foreign commerce so much as some other nations whose sea-board was more extensive; and of all the people thus situated the Phœnicians were most noted for their varied and remote trade; even to the British Islands, known as the Cassiterides, did their vessels resort for tin and lead; and from the luminous statements of the prophets Isaiah, Jeremiah, and Ezekiel, we may form some idea of Phœnician commerce.

Sidon enjoyed the highest reputation for naval skill; although of the form, size, or mode of rigging of their vessels nothing is known; but like our own East Indiamen of the last century, or the Spanish galleons of a previous age, they were equipped for war as well as for trade.

We may form some estimate of the perfection to which these ships had been brought, by the observations which Xenophon causes Isomachus to make while discoursing on the advantages of order. "The best and most accurate arrangement of things I think I ever saw was when I went to look at the great Phœnician ship; for I saw the greatest quantity of tackling disposed in the smallest stowage. You know that a ship comes to anchor, and gets under weigh by means of many wooden instruments and many ropes, and sails by means of many sails, and is armed with many machines against hostile vessels, and carries about with it many arms for the crew; and all the apparatus which men use in a dwelling-house, for each mess. Besides all this, the vessel is filled with cargo which the owner carries for his profit. And all that I have mentioned lay in not much greater space than would be found in a chamber large enough conveniently to hold ten beds. All things too lay in such a way that they did not obstruct one another, so that they needed no one to seek them; could easily be got together, and there were no knots to be untied, and cause delay if they were suddenly wanted for use.

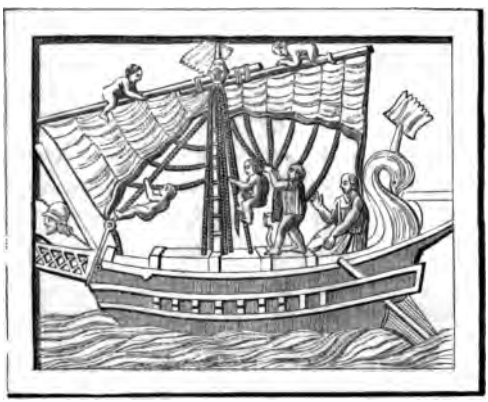
"I found the mate of the steersman, who is called the prow's man, so well acquainted with the place of each article, that even when absent he could tell where everything lay, as one who has learnt to read, could tell the number and order of the letters in the name of Socrates.

"I saw this man examining at an unoccupied time everything that is of use on board a ship; and on my asking him the reason, he replied, 'Stranger, I am examining whether anything is

deficient or out of order, for it will be no time to look for what is wanting, or put to right what is awkwardly placed, when a storm arises at sea.'"

The Romans.

The peculiarity of the Roman character led them to found colonies, to form settlements, and institute municipalities, rather than to the prosecution of trade, hence their vessels were more designed for war purposes than for commerce; and the following sketch of a Roman galley, taken from the ruins of Pompeii, may convey some idea of the usual form of their ships.



ROMAN GALLEY,—FROM A TOMB AT POMPEII.

The Ancient Britons.

On throwing a stone into a pool, we readily observe the first well-defined narrow circles of agitated water; gradually the expanding rippling wave marks larger and larger curves, until at the edge of the irregularly bounded, far-off shore, the circle has become so great and broken that the portion which we are watching ceases to suggest the original cause.

Without further moralizing as to the oak springing from an acorn, I would remark that in the following quotation from an

ancient author, the peculiar national tendency of the British to engage in commerce is indicated, and this implanted mental constitution, like the stone in the pool, originating both narrow and large circles of trade, is traceable in the Ancient Briton as in the modern

"Whom either Ind obeys."

"Beneath this promontory," says our author, speaking of Cape Finisterre, "spreads a vast gulf in which rise out of the sea the Cassiterides, rich in the metals tin and lead. The people are proud, clever, and active, and all are engaged in cares of commerce. They furrow the wide rough strait, and the ocean abounding in sea-monsters, with a new species of boat; for they know

ANCIENT BRITON WITH CORACLE.

not how to frame keels with pine or maple, as others use, nor to construct their curved barks with fir; but strange to tell, they always equip their vessels with skins joined together, and often traverse the salt sea in a hide of leather."

And Pliny remarks, "The coracle is made of wickerwork, round which leather is sewed."

The Venetians.

On the decline of the Roman Empire, when to be a Roman citizen ceased to be a panoply of security, the dwellers in cities, no longer members of the one great Roman state, banded themselves together more closely for mutual defence against the barbarous hordes which, on the breaking up of the Empire, overran the rural districts; and foremost amongst these municipalities ranked Venice, so advantageously situated on the great border district of the Eastern and Western worlds.

During the crusades the rude nations of Western Europe became acquainted with the luxuries of the East; and returning to the cold damp north, carried with them specimens and glowing recollections of silks, carpets, perfumes, and metal work, previously unknown to their unskilful countrymen.

Venice had succeeded in attracting to itself a large share of the trade of conveying the warriors and stores to and from the Holy Land; and following up its advantages, by degrees became the depôt,—the great storehouse,—the mart whence its rich merchants, joining hands "over a vast," supplied the wants of all nations.

The high mercantile position of Venice at the period referred to is indicated by the fact of Shakspeare giving to one of his immortal plays the title of "The Merchant of Venice," and thus are set forth the commercial transactions of the hero:—

"He hath an argosy bound to Tripolis, another to the Indies; I understand moreover upon the Rialto, he hath a third at Mexico, a fourth for England,—and other ventures he hath squandered abroad. But ships are but boards, sailors but men; there be land-rats and water-rats; water-thieves and land-thieves—I mean pirates; and then there is the peril of waters, winds, and rocks. The man is, notwithstanding, sufficient."

The Christian world was, moreover, indebted to the maritime

prowess of the Venetians for its successful opposition to the repeated assaults of its formidable Moslem foe.

To the wide-spread and large transactions of the Venetians we owe the introduction of the system of banking; this peculiar feature of modern commerce being the result of a deep felt necessity for some mode of adjusting the balance of trade arising from the operations of indirect barter. Sea-power, commerce, wealth and intelligence, caused this small republic to assume and maintain, for many ages, a political importance in Europe quite unknown to many other states of much greater magnitude; and its characteristic magnificence and pride are notorious.

"The exhaustless East
Poured in her lap all gems in sparkling showers;
In purple was she robed, and of her feast
Monarchs partook, and deemed their dignity increased."

THE BUCENTAUR.

In the Bucentaur, the state galley of the Republic, yearly, on the feast of the Ascension, the Doge and the civic authorities of Venice visited the mouth of the Adriatic, where the ceremony of wedding the city to the ocean was performed by dropping a ring

into the sea, the marriage formula being these words, "We wed thee with this ring in token of our true and perpetual sovereignty."

This ceremony is traceable to a victory obtained over the Turks in 1177 by the Venetians, who on their victorious return were presented by Pope Alexander III. with a ring, which was subsequently used by the Doge on the anniversary of the victory; and the curious custom was annually observed until the close of the last century.

Other nations bordering the sea-coast of Europe, having acquired the knowledge of the Mariner's Compass, were, in the meantime, extending the art of navigation; and the English, Spaniards, and Dutch stood prominently forward in discovery and the opening out of those new sources of trade which this guiding instrument, the compass, rendered accessible.

One of the most curious vessels of the early English construction was the renowned man-of-war, the Great Harry, built by Henry VII., a sketch of which is placed at the beginning of this chapter.

Merchant ships were gradually increased in size; and in the 18th century the vessels belonging to the East India Company were built so large and strong, and carried cannon of such weight and number, which the officers and men knew so well how to fight, that often these vessels, richly laden with silks, tea and other oriental produce, tempting prizes to the fleets of our enemies, did not hesitate to accept battle, and not merely repulsed but frequently succeeded in destroying the foe.

The requirements of trade and increasing intercourse between nations have led to the construction of still greater vessels, until they are now estimated by the thousands of tons they can carry.

Modern Steam-vessels.

Towards the end of the last century Mr. Watt made the im-

portant inventions which have immortalized his name, in adapting and employing as a motive force the property possessed by water of expanding by the application of heat into a vapour, steam, occupying in that state a much larger space than when in the liquid condition.

At first the invention was applied to engines upon land, but Mr. Patrick Miller, of Edinburgh, who had experimented upon propelling vessels by manual labour without sails or oars, was induced, at the suggestion of Mr. Taylor, to fit up a boat with a steam engine, made by Mr. William Symington.

The first steam voyage was accomplished by means of an engine working one paddle, in the space between a double boat, the experiment being tried on a lake at Dalswinton, in Nithsdale, on the 19th October, 1788.

THE FIRST STEAM VESSEL—THE COMET—INFANCY.

The principle established by this small, crude, but highly successful experiment has since developed into a system of locomotion infinitely beyond what its most sanguine promoters could have conceived; and the introduction of a new form of the instrument of propulsion, viz., the worming through the water by fans or blades, shaped in the form of portions of the thread of a

screw, in lieu of beating against the waves by floats, fitted on the periphery of a wheel, has brought a still further element of advantage into the question, the line of work of the screw being always in the direction of the head of the ship; the screw itself being also below the surface of the water, is less likely to receive injury than is the case with paddle wheels, one of which is sometimes buried in the water, and the other ineffectually revolving in the air.

Steam vessels now accomplish a speed of sixteen miles an hour, and some are constructed of several thousands of tons burthen.

From the capacious portfolio were produced further sketches of favourite ships and barques in which the officer had sailed, and choice drawings of little gems of schooner yachts and noble frigates, picturesque hoys and Dutch luggers, such as artists love, and no end of Chinese junks, catamarans, gondolas, caciques, boats, and canoes, with most unpronounceable names used by all the queerest people imaginable in all parts of the world, to describe and depict which would occupy too much space in this little book.

It must suffice to say that we spent a very long pleasant evening in the discussion of these water vehicles, and that at last when the officer gathered up his sketches and closed his note book he retired amidst the acclamations of the company.

Had the voyage referred to in this small volume been performed in the present year, the officer's portfolio would undoubtedly have contained a sketch of the "Great Eastern," a few particulars of which leviathan of the deep are appended.

It is proposed to propel this modern ark by paddle engines of 1500 horse power and screw engines of 1800 horse power, giving a total of 3300, though capable of being worked to a force of upwards of 5000 horses.

The hull is constructed double, on the principle adopted in the top and bottom of the Britannia bridge, the inner skin or hull being 2 ft. 10 in. apart from the outer; she will have six masts,

all of which will be below of wrought iron, except the last on which, at the height of 64 feet from the deck, will be placed the standard ensign.

THE LAST STEAMER—THE LEVIATHAN—HAVRETT.

Weight of the ship and engines	12,000 tons	Breadth	83 ft.
Quantity of coal	12,000 "	Breadth across the paddle-boxes	120 "
Length between stem and stern-post	680 ft.	Tonnage	23,000
Length of upper deck	692 "	Thickness of iron plates in keel	1 in.
Height to deck	58 "	Iron deck	1 "

Paddle Engines.	*Screw Engines.*
Cylinders, 4	Cylinders, 4
Diameter of in. 74 inches	Diameter of in. 84 inches
Weight of each, 30 tons	Weight of each, 30 tons
Diameter of paddle wheels, 56 feet	Blades, 4; Diameter, 34 feet.

As we gaze, awed by the majestic beauty of her vast outlines against the murky sky, we breathe the aspiration—Would that she were filled with intense vital energy, to cleave the liquid air and speed her swift way to the heart of the great sun himself.

NOTE.—The first experimental steamer, depicted on page 120, is by mistake called the "Comet,"—the vessel of that name, and which was the first commercial passage-boat in Great Britain, was not constructed until 1812, and was named after the great comet of 1811.

ISLAND OF ST. PAUL.

CHAPTER X.

THE DESOLATE ISLAND.

"I am out of humanity's reach,
I must finish my journey alone;
Never hear the sweet music of speech,
I start at the sound of my own.—COWPER.

SOME of the ancients believed the world to be a huge animal, an opinion induced by the convulsions of nature; its heavings and throbbings appearing to them as the violent strugglings of a living being, in the intensity of its agony vomiting masses of flame, and causing the elements to melt and run through its veins as metallic blood.

Modern minds regard these phenomena as the handiwork of the One Creator to whom great and small are alike; whether with noise and terrible grandeur, from the tumultuous mountains

issue forth their fiery contents, carrying swift destruction with them, until lost in the billows of the agitated sea; or myriads of minute social coral insects slowly rear islands and continents by their silent labours.

In one of those grand eruptions of nature, a volcano emerged from the depths of the ocean and reared its head above the curtaining waters, and being rent asunder in its ascent, the rolling seas rushed into the seething, scorching crater, which even now has so little cooled, that the percolating water may be discovered steaming and boiling a few inches below the surface. Thus seems to have originated the curious island of St. Paul's, not more than three or four miles long, and two miles in breadth; standing in the Southern Indian Ocean far away (2000 miles) from any inhabited continent; not accessible, with safety, at any time, nor on any side except by one small opening on the eastern shore,

PLAN OF THE ISLAND, SHOWING THE ENTRANCE TO THE CRATER.

where a portion of the crater has been torn away, partly, probably, by disruption when the island was thrown up, and partly worn down by the action of the waves. This crater, exceeding Etna or Vesuvius in size, is entered from the sea between two barriers or breakwaters of stones, jutting out from each side of the high cliffs which form the eastern boundary of the basin, leaving a

narrow channel of forty yards in width. At the entrance of the bay, about 200 yards from the shore, stands, as a sentinel, an insulated conical rock, built up in horizontal layers, bearing the marks of intense igneous action. Rowing slowly through the dense fringe of seaweed which girts the island, and with difficulty avoiding striking with the oars the sea-birds which, bold and free from alarm, hover around in such vast multitudes that the visitor is suddenly struck with a painful feeling of isolation ;—

> "They are so unaccustomed to man,
> Their tameness is shocking to see."

the basin of the crater is at last entered, and from the edge of this lake of water, nearly two miles in circumference, the land rises suddenly in the shape of a funnel or inverted cone, to the height of 700 feet, and at the steep elevation of 65°. Springs of hot water are found on the slopes of the crater, the temperature of some being as high as the boiling point, of others rather lower; while around grow mosses in abundance, and the lycopodium cernuum in its loved warmth and moisture. The bubbling springs are nearly all brackish; but the small running streams, which have their source in the high ground, are still drinkable although tinged with a mineral taste. Tench, bream, perch, and other fish abound in the basin and on the coast, and from the place where caught may be boiled in one of the many neighbouring springs without removal from the line. Occasionally vessels are lost on this little island, and very severe are the sufferings of the wrecked, so fearfully few are the resources of the place; except just at the eastern basin referred to, and to reach which is difficult, although absolutely necessary for relief; the precipitous character of the cliffs and the great height of the tall grass rendering progress slow and painful. It would be well if every person landing from curiosity would plant in sheltered spots a few potatoes, or a small quantity of seeds of cruciferous plants or pumpkins.

Ascending the steep slopes we come to an undulating plateau, terminating in a range of perpendicular cliffs, from which the

western shore is reached by a small pathway, frequented by the sealers when the wind drives their prey to this side of the island.

Building rude stone huts on the edge of the crater lake, and spreading a carpet of long grass on the floor, the sealers, depending principally upon fish and birds for their subsistence, pursue their monotonous life for months, killing thousands of seals for the oil and the skins they yield. So numerous were these animals that the droves frequently numbered eight hundred or more; but of late years they have diminished.

Seals resemble quadrupeds in some respects and fish in others; breathing by internal lungs as the former, and not by the apparatus of gills like fish. The head is round, the nose broad, resembling a dog, and they have a peculiar bark; the lower extremity tapers off like the body of a fish.

THE SEAL.

The eye and ear of the seal are so constructed that he must have very moderate powers of sight and hearing, and still less sense of touch, except through the medium of whiskers. Of all four-footed mammalia, seals display the most adaptation for living in the water; though the feet are furnished with the same number of bones as land quadrupeds, they are united to the body in a very curious manner, and so covered that they might be considered fins were it not for the sharp claws with which they are pointed. The limbs, in fact, are converted into oars and paddles; the front pair having the arms so short, that little more than the

paws advance from the body; the hind limbs are so far back as to occupy the usual position of a tail, the toes being in contact, and the web folded except when swimming. Seals are awkward on land, and seldom venture on shore, and when disturbed immediately plunge into the water. Their food is principally fish, crabs, and birds.

Seals are found in all parts of the world, and seal-hunting, in the colder regions, is not unattended with danger; the ice being full of chasms or pools made by the seals. As they breathe with lungs, seals cannot remain under water beyond a limited time, and as they cannot turn down their heads to gnaw a hole from above, and the ice sometimes forms and joins so fast as to close the hole through which they had risen, the seals are frequently cut off from their retreat, and their capture thus made easy. As many as 600,000 skins have been brought to England in one year. When first obtained, they are salted and packed in casks, in which state they are sent home, being sorted on arrival according to their suitability for various purposes. The greater portion is tanned and enamelled with black, for ladies' shoes, and the leather is much used for shoe-binding, where great strength is required; other descriptions are well adapted for fur, especially the seals of the South Seas and the north-west coast of America. Before used for the latter purpose it is necessary that the very coarse hairs which cover the fine silky fur should be removed, and as the roots of this description of hair are deeply seated in the substance of the skin, while the fur is attached to the upper surface, by shaving the *inside* of the skin the roots of the coarse hairs are cut through and they easily fall out. This soft curly fur, having the appearance of the richest velvet, is most frequently dyed a deep Vandyke brown, and then manufactured into every variety of dress. When carefully manufactured, seal-skin is very strong, and the skins of the large elephant seals are, for this reason, used in harness-making.

St. Paul's also abounds with those grotesque birds, penguins,

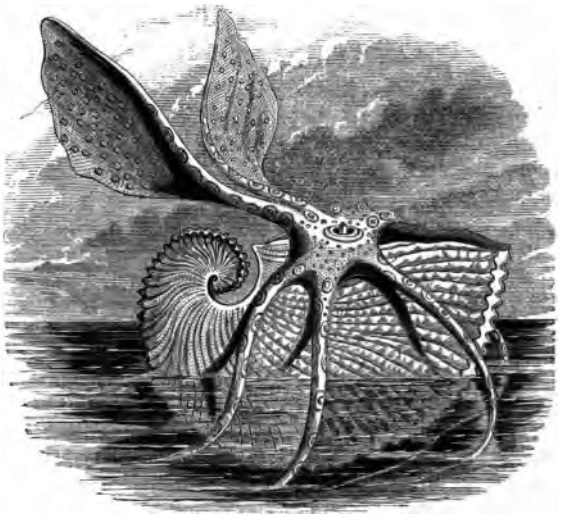
whose feet are placed so far back that the solemn gravity of their appearance when they stand upright in a line upon the ground is extremely amusing. The wings are small, and cannot raise the fat heavy bird, frequently weighing from twenty to forty pounds;

PENGUIN.

they peck boldly, and defend themselves vigorously, until reaching the water, to which they immediately hasten when assailed, they dive and disappear.

* * * * *

The fair breeze blew, and as the Petrel skimmed the seas we looked backwards with affection towards that little land floating there in a sea of fire, until it diminished into a tiny speck on the glorious sun as he sank beneath the western wave.



THE PAPER NAUTILUS—ARGONAUTA ARGO.

CHAPTER XI.

AT SEA—THE ARTIST'S OCEAN THOUGHTS.

"A thing of beauty is a joy for ever:
Its loveliness increases; it will never
Pass into nothingness." KEATS.

AMONGST the voyagers was one who, though shunning rather than courting observation, was the most remarked and individualized person in the ship.

Of medium height, his slight make conveyed the impression of a taller man than his real stature justified; the symmetry of his delicate frame suggested physical refinement; while through his dreamy, dark, luxurious eyes, the passionate genius enshrined

within that noble forehead beamed forth with mild radiance, lighting up a countenance on which "the pale cast of thought" had thrown a pensive sadness, as the shadow of the angel of sorrow.

Courteous to all, it was a peculiar sympathy that caused the little children to flock around him and listen with intense earnestness to his quaint fairy tales and legends; and when frequent illness prevented his visiting the deck, groups of their inquiring faces might be seen hovering near his cabin-door, from which no coaxing could entice them; and if invited to enter the coveted object of their sly peeps through the Venetian blinds, they would quietly sit and play with his thin hands, kiss his pallid cheeks, or inquisitively peer into his cabinet, examining with wondering curiosity its varied contents.

A stranger to all on board, rumour said that Ducal Coronets embellished the carriages of the fair ladies whose arrangement of his small cabin disclosed that an intelligent foresight had endeavoured to relieve, as far as possible, the discomfort of a sea-voyage.

He was accompanied by a youthful sister, a ministering angel, to whom he was all the world, and who was all the world to him. Graceful in form, and of a gentle spirit, her loving anxious eyes instinctively followed as an echo or a shadow her other dearer self; and this devotion to one whom disease had marked for early death, surrounded as with a halo of celestial radiance a head and figure of enchanting loveliness. Every feature was exquisitely chiselled; and firm, well defined lips added the perfection of decision to the rich warmth and tenderness of the upper face; the whole reposing with quiet harmony in a choice setting of dark chesnut tresses.

When prostrate by his fitful malady, the voice of this guardian angel, in sweetest strains, sought to soothe his pain by the plaintive accents of melodious Dante, or cheer his languor by the full flowing joyousness of Chaucer, or the Fairie Queene.

From the fragmentary threads of desultory conversations slight clues to the artist's history were gathered up.

Descended from a family of small fortune, in the county of Westmoreland, Art had early laid upon him her fascinating hand;

READING DANTE.

and reading, meditation, and the ardent practice of his all-absorbing, chosen occupation, only inflamed the intense desire of his soul to visit the sunny land of Italy, and contemplate under their own glorious skies the works of ancient genius;—arrived there, his devotion, power, and application as a student, acquired for him the high respect and cordial warm admiration of his brother artists.

Stored with grateful recollections of the dead, and the wondrous achievements of past ages, the inspiration within stirred him to do manful battle for the present.

May-day approached, bright, fair, and green, and full of gladsome hope; his first picture was received, scrutinized, and the new artist's work admitted by the committee, without dissentient voice, and hung—upon the line: the newspaper critics condescended to notice it as the performance of one possessing

elements of promise; and ignorant conceit pointed out for amendment assumed errors in this foreshortening and that shadow; this faulty grouping, and that defective colouring.

Always present in that group of eminent men who have won for themselves renown in science, literature, and art, mingled with fair and noble ladies, periodically thronging the private view of the Academy exhibition, was a city merchant, who in early life had adored the muses, and still cherishing within him a soul tender towards art, amidst a constrained attention to bills of lading, rates of exchange, price of money, quotations of indigo, sugar, rice, and cotton, religiously visited the Academy yearly with the thrilling ardour of a first love.

Sauntering from room to room, with apparent listlessness, he carefully noted the works which arrested his footsteps; on a second visit none escaped investigation; a third inspection (this time his catalogue became richly marked and scored with notes) resulted in the purchase of one or two gems worthy of admission into his already numerous collection.

More than once the young artist's pictures had been elected to the post of honour by this fair, open competition of merit; the only judgment the merchant consulted being that of an old friend, an eminent engraver, who, with a true feeling for the poetry of art, would dwell with delight upon the simplicity and power of the treatment, the strength and harmony of the colouring, the careful correct drawing, and the perfect oneness of the composition.

Year after year critics asserted and counter-asserted—yearly belying their previous statements; but the artist, unheeding, kept his own high course; no great sums were paid or demanded for his works; no rich or noble personage invited the painter to grace with genius the bounteous board;—at length one of royal lineage appreciated the mind and hand of a master, and prevailed upon the citizen to resign a choice production of our artist's brush.

Fame, flattering attentions, commissions, henceforward pressed upon the suddenly valued artist; whose mind, ever powerful to conceive, remained perfect, yea, by its contrast with the sinking body, seemed to grow richer, and soar higher; but the executing hand faltered and forgot its cunning; the stream of life's warm blood flowed stealthily and heavily, as a dull brook oozes with difficulty through the sand into the eternal ocean; and overworked humanity threatened to become a wreck, shattering and breaking up into its pristine elements the delicate framework of his being; releasing the undying spirit from its prison-house.

Able physicians advised a total change of scene as the most likely means of restoring tone to the overstrained nerves; and the ruling passion dictated a voyage in the Petrel, for the artist had a hidden desire, suppressed even to himself, and totally concealed from all others, to find fresh subjects for his pencil in that newest world, so grand in its vegetable life, so unique in its animal creation.

The noble, loving-souled artist who had thus become a passenger on board our good ship, was invited to repeat at one of our weekly assemblies, for the benefit of all, some of those suggestive ocean thoughts which had been uttered by him to individuals with unobtrusive grace in his ordinary conversation.

The elder men hoped that this gentle excitement might arouse and divert his attention from the foe within; matrons loved to listen to his words as to the last broken eloquence of a cherished only son; while his voice fell upon maiden's ear as the sweet music hush of the streams of Paradise; and his little friends, the children, expected tales of meadow fairies and their wondrous tricks; of King Arthur, and adventurous armed knights in search of imprisoned ladies; of the lands of golden orange groves and purple grapes; of the dread mountain whose fiery breath foamed out destruction upon whole cities, burying them beneath the molten tide; of the early Christians who in fear worshipped the

true God in the catacombs; of Romulus and the wolf, and the stern old Romans; of Greek heroes—wise, just, and brave; of the

TELLING A FAIRY TALE.

vast pyramids, and the mysterious Sphynx, and the marvellous temple ruins in the dense shadow land of Egypt.

* * * * *

"Our good chief officer," began the artist, "having allotted to me the pleasurable duty of explaining to you the heraldic devices employed in the royal standard, I will first of all, with your permission, dispose of that subject. I fear, however, that to render the matter clear, I may have to refer at some length to a few preliminary questions with which all may not be conversant.

Emblems very similar to armorial bearings have been in use from time immemorial, both in war and in peace; and we find many illustrations of this fact in the shields of ancient warriors, and the devices on those coins, rings, and seals which have escaped the destructive agency of time. The ancients made use of lions, tigers, dragons, foxes, and owls, as representatives of strength, cunning, wisdom, &c.; such assumptions or picture lessons, if I may so speak, being intended to indicate the possession of similar

qualities by the bearers :—thus the military standards of the Romans were carvings in wood or metal, principally representing an eagle, which were elevated at the end of a lance or staff.

Standards, generally made of silk or other woven textile fabric, have been in use among modern nations from a very early period; and St. Augustin and his followers are related by Bede to have approached Ethelbert, King of Kent, bearing flags or banners, on which were displayed silver crosses and the picture of Jesus Christ.

The word flag, I may mention, is derived from an Anglo-Saxon word,—fleogan, to fly or float in the wind.

The greatest development of emblems took place at the period of history so well known as "the middle ages," when warlike sports were the amusement of the times of peace, the most important of these being the tournament, from the French word tourner, to run round; because in those military games, skill, and agility, both of rider and horse, in rapidly turning, were requisite for success.

On a tournament being announced, the competitors attended with flowing banners, on horses gaily caparisoned, their fantastic devices gorgeously displayed on shield and surcoat. Arriving at the barriers of the tilting-ground, each competitor blew a trumpet or horn; whereupon his name, armorial bearings and rank were recorded by the herald; and hence arose heraldry, or the art of blazon, which signifies a description of arms in their proper terms: the word blazon coming from the German, "blatzen," to blow a horn.

These tournaments greatly extended the use of heraldic distinctions, from the numerous fanciful devices by which the champions in such feats were distinguished.

According to the established articles, all princes, lords, barons, and gentlemen of noble extraction were entitled and invited to become combatants, provided they came well and properly armed. Those who were received and admitted to tourney were required

to appear dressed in complete armour, with their arms embroidered or depicted on their surcoats; and mounted on horses fully caparisoned. Each combatant was preceded by his esquire, also upon horseback, and bearing in his right-hand his master's tilting spear, from which floated a pennon of his arms, and in his left the helmet which was to be worn in the exercise, ornamented with lambrequins or flowing pieces of silk, mistresses favours or wreaths, being of the tinctures or colours of his arms and proper liveries, and surmounted by the crest and device.

When the combatants approached the spot whereon the tournaments were appointed to be solemnized, they, on notice given by sounding a horn or trumpet, were met at the barrier by the judges of the tilt and others appointed for that purpose, to whom they presented their arms, armorial bearings, and requisite proofs of descent and qualification.

These being duly examined by the judges, were registered in their books, together with the names of their several lordships; which done, the shields and arms of the competitors were hung upon tents, trees, barriers, and fit places near to the lists, some days before the sports were to begin; not only as signals of challenge to all such as were willing to contend, but in order that every combatant might be known to the actors, judges, and spectators. Each of the shields thus exposed to public view was attended by the pages of the respective challengers, to whom the shields belonged, dressed in such fashion as their masters fancied, some appearing like savages, Saracens, Moors, sirens; others like lions, bears, tigers, bulls, and other animals; and it was the business of these pages, in conjunction with the heralds, to take an account of the names and arms of all those who accepted the challenge. This fantastic dressing of the attendants appears to have given rise to the introduction of the grotesque supporters added to some coats of arms.

The second great occasion for the advancement of heraldry

was the crusades, or croisades, from the Latin crux, or French croix, a cross, because it was in defence and for the propagation of Christianity that they were undertaken.

Hundreds of thousands, millions I may say, of persons of all ranks embarked in this cause, firm in the belief that those who might be slain while pursuing this object would immediately receive the reward of martyrdom. Most of the adventurers assumed additional heraldic devices, previously unknown in armorial ensigns; more especially of crosses of infinite variety of colour and shape.

The miseries the crusaders suffered and caused are lost in the abyss of time; only dreamy impressions remain of the overwhelming display of physical strength, the prowess of heroic individuals and the power of principle, however blind or fanatic we may now consider it to have been, which could so move nations; and "distance lends enchantment to the scene" which has captivated the painters and poets of all succeeding times.

These crusades gave an importance to the art of heraldry which it had not previously obtained, and which it has since to a great extent lost by modern changes in the mode of warfare.

When the person was cased in armour and the face covered, it was scarcely possible to distinguish one knight from another, except by the insignia painted on their shields, embroidered on their surcoats, or displayed upon their banners.

Hence also it arose that besides the national flags, the king's banner, and any religious banners carried with the army in the days of chivalry, many less important banners distinguishing particular portions of the army were introduced, on which the leaders depicted the heraldic devices of their houses, and these flags served as rallying points to their retainers; for it should be remembered, that at the period referred to, standing armies were unknown, but each chief was followed by his tenantry and serfs, and that a battle then partook more of the nature of a mêlee, or numerous small fights, carried on independently, and the loss of

some of these rallying points must have, on many occasions, seriously affected the result of the whole.

In heraldry various rules as to the depicting of the devices were established, which I may here name.

	THE COLOURS GENERALLY USED ARE—		
		CALLED	INDICATED BY
	Red	Gules	Perpendicular lines
	Blue	Azure	Horizontal lines
	Black	Sable	Perpendicular and horizontal lines crossing
	Purple. . . .	Purpure . . .	Diagonal lines from left to right
	Green . . .	Vert	Diagonal lines from right to left
	THE TWO FOLLOWING ARE TERMED METALS.		
	Yellow . . .	Or	Dots
	White	Argent . . .	Plain blank space

* The *right* side of the shield faces the *left* hand of the spectator.

It is contrary to heraldic usage to place a colour upon a colour, or a metal upon a metal; they must interchange. The quarter is formed by two lines, one perpendicular the other horizontal; taking up a fourth part of the shield. The canton is a square figure like the quarter, but smaller, being formed by the intersection of two lines distant from the right or left upper corner, one-third of the breadth of the shield. The orle is an inner border of the same shape as the shield, but does not touch its extremities; and the tressure is a diminutive of the orle, half its breadth, and is frequently borne fleuri, counter-fleuri, the fleurs-de-lis being alternately turned outwards and inwards.

Having made these general remarks on the subject of heraldry, I will now, continued the artist, show their application to the royal standard; by which is understood the most considerable banner of an army, or the national banner, the supreme mark of the state; it is hoisted only by the vessel on which the sovereign or one of the royal family may be voyaging at the time. On shore it is exhibited on festival occasions at public buildings of the state.

The present royal standard is divided into four portions; the arrangement being in accordance with a proclamation of George the Third, when the Union of Great Britain with Ireland took place; by this proclamation it was ordered that "the arms or ensigns armorial of the United Kingdom, shall be quarterly, the first and fourth for England, the second Scotland, the third Ireland."

The first and fourth quarters are occupied by the English arms of the Sovereign, and each quarter is composed of three lions, represented in the act of walking, their faces turned towards the spectator; the lions are depicted of yellow colour, and the ground or field, red. This portion of the arms originated with Richard 1st, Cœur de-Lion, who, after his return from captivity, adopted three lions as his device, and they have continued in use ever since.

The second compartment or quarter is occupied by the Scotch arms of the Sovereign, being one rampant lion within a double border, in heraldry termed a tressure, the ground being yellow, the lion and surrounding borders, red. The lion appears to have

been derived from the Northumberland family, from whom the Scottish kings were descended; the origin of the tressure is lost.

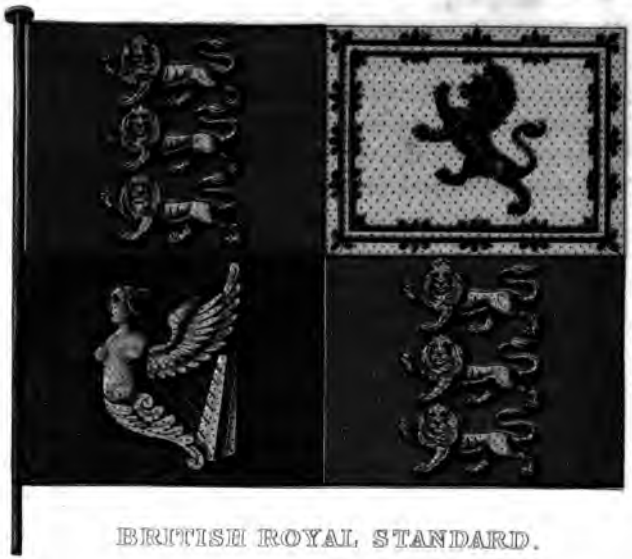
The third quarter, the lower, nearest the flagstaff, has a blue ground, bearing upon it a golden harp, with white or silver strings, this being the device for Ireland; the harp was sacred to Apollo Grian, or Beal, the principal deity of the ancient Irish.

On the principles I have stated the British Royal Standard would be thus represented:—

		In colours.	Heraldic terms.	In ngraving.
1st & 4th Quarters	England	Ground or field, red	Gules	Perpendicular lines
		Lions, yellow	Or	Dots
2nd Quarter . .	Scotland	Ground or field, yellow	Or	Dots
		Lion & tressure, red	Gules	Perpendicular lines
3rd Quarter . .	Ireland	Ground or field, blue	Azure	Horizontal lines
		Harp, yellow	Or	Dots
		Strings, silver	Argent	Plain white space

Having finished this portion of my task, I gladly draw your attention away from the whims and eccentric institutions of man, to the more pleasing and satisfying operations of nature.

With the floral adornments of the earth you are all more or less acquainted, and how exquisitely beautiful the choice arrangement and play of colors in the delicate pencillings of the petals of the most simple flower; how etherial the bloom and aroma of those rich fruits, whose luxurious juices refresh all living creatures; how interesting to trace, study, and master the ramifications of the veins of leaves carrying the vegetable blood to and from all parts of the plant, the symmetrical position of its leaves on a tree, each having its own peculiar law, the order yet happy freedom of growth of the branches, conferring a charming indi-



BRITISH ROYAL STANDARD.

UNION JACK.

viduality on every species, and giving a marked character to every landscape.

Scarcely less enticingly attractive are those forms of vegetable life which flourish totally submerged in the moderate depths of the sea, where, anchored to the firm rock, their nodding plumes, in colors of every shade, from sombre deepest olive and russet to brightest green and yellow and red, undulate to the swell of ocean; infinite are their forms, some of tiniest fairy threads, others of broad massive bands extending hundreds of feet in length, at intervals spreading out into large discs or plates.

These silent submarine groves are inhabited by tribes of molluscs, star fishes, and thousands of animals whose structure and habits adapt them for these regions, all enjoying their allotted happiness and fulfilling the object of their creation.

From one large field of seaweed the uprooted plants are yielded in such quantity, that off one part of the coast of North America vessels sail for days through long swathes of floating masses of vegetable, termed Gulf-weed, spreading over an extent several hundreds of miles in length and breadth.

In this brief allusion to marine vegetation, I should not omit to notice that those peculiar substances, Bromine and Iodine, are derived from seaweeds, the latter so valuable as a medicine in cases of goitre and other diseases; and when heated, subliming from its previous dull metallic condition into a glorious violet vapor, rising as a released spirit to its happier state.

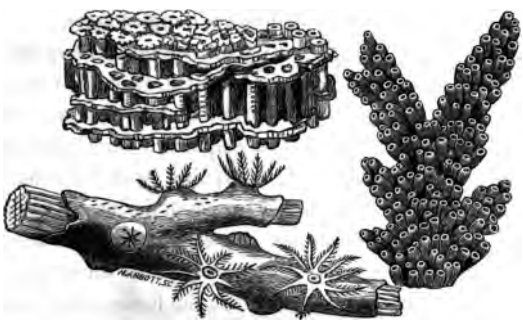
Nor is the ocean tenanted only with vegetable life in the manner we have intimated; but movable creatures, in many cases far surpassing land animals in size, number, and swiftness, abound; of some of the most interesting and important our commander has discoursed to us; briefly on this evening would I refer to those water-beauties, true sea nymphs, to which the poetic Greeks gave the name of virgins of the sea (kure halos, whence the Roman curalium, corallium, corals), who all dwell in warm regions, and whose delicate constitutions and fragile forms seem unable to endure the rigour of cold latitudes.

Some of these busy little tribes, groups of sea colonies, secrete in their interior a stony core or nucleus composed of carbonate of lime, constituting the variously shaped, flat, or branching tree-like corals; this centre is invested with a skin, covering it as a bark, and maintaining the organic connection between the numerous separate polyps which thus constitute an entire and vitally connected family.

Of an infinite variety of forms and colours, residents of that twilight region, midway between fullest sunshine and utter darkness, in a genial climate, and ever laved with clearest moving waters, they live and flourish, thickly covering the floor of ocean as with an enamelled living carpet of matchless splendour.

> "And here were coral bowers,
> And grots of madrepores,
> And banks of sponge, as soft and fair to eye
> As e'er was mossy bed
> Whereon the wood-nymph lie,
> With languid limbs in summer's sultry hours."

Hosts of these tiny, social, family labourers build up in the mild zones of that hemisphere to which we are sailing, islands of large extent, and reefs hundreds of miles in length; the limitations of their energetic life being such, however, that they cease to increase where the reef is dry at low water, the coral animals requiring the constant presence of the fluid.



ORGAN-PIPE, RED, AND MADREPORE CORALS.

The red coral obtained from the Mediterranean and Eastern seas varies much in hue, that growing in shallow water being of the most beautiful colour; the light of the sun, as in the case of plants, seeming to be essential for the development of colour.

The Madrepore differs from the red coral in this respect, that the Madrepore corals possess cells composed of the substance of the skeleton, which serve to protect the polypi, whereas the polypi of the red coral are destitute of these little homes. In the living Madrepore, the branches are covered with the polypi projecting from these cells, and when they die, and the flesh decays, this internal skeleton is studded over with these elegant cell dwellings.

Nor alone do these anchored colonies people the margin and floor of the seas; millions of other animated beings, not developing into vegetable forms and secreting internal skeletons, but gifted with the power of depositing an external covering of strong calcareous laminæ, live a happy existence in their watery abodes. For illustration I need but remind you of the infinity of beautifully variegated shells found in all our Museums.

Of these brilliant specimens of the Divine Workman's gems of ocean, man has made but slender use; art has, however, availed itself to a slight extent, and by skilfully removing portions of these various laminæ, has produced works in shell (cameos) of extreme delicacy and beauty.

Other inhabitants of the ocean yield further adornments to female beauty in the shape of pearls, found, strange to say, in the inelegant and unpromising shell of a species of oyster; and the covering, carapace, of the chelonia turtle, supplies those various articles of dress and ornament so well known as tortoise-shell.

Among the ever-varying forms of beauty which people the deep sea the nautili hold a royal place.

Both of the modern species of these animals dwell in shells, at the outer extremity of which they reside, but the distinguishing peculiarity of one, the argonauta argo, is, that the shell is not divided into partitions, as in the case of the true nautilus, the nautilus pompilius.

Addison, in his "Vision of Mirza," places the sleeper on a rock, and being directed to look eastward, "I see," said he, "a huge valley, and a prodigious tide of water rolling through it." "That valley," said the genius, "is the vale of misery, and the tide of water is part of the great tide of eternity. The tide rises out of a thick mist at one end, and again loses itself in a thick mist at the other, and is that portion of eternity which is called time. Now cast thine eye," said the genius, "on that thick mist into which the tide bears the several generations of mortals that fall into it." I did so, and saw the valley opening at the further end, and spreading forth into an immense ocean, that had a huge rock of adamant running through the midst of it, and dividing it into two equal parts. The clouds still rested on one-half of it, insomuch that I could discover nothing in it, but the other appeared to me a vast ocean planted with innumerable islands that were covered with fruits and flowers, and interwoven with a thousand little shining seas that ran among them. Gladness grew in me upon the discovery of so delightful a scene. I wished for the wings of an eagle that I might fly away to those happy seats, but the genius told me there was no passage to them except through the gates of death. "The islands," said he, "that lie so fresh and green before thee, and with which the whole face of the ocean appears spotted as far as thou canst see are the mansions of good men after death."

And Bunyan, in his delightful allegory, represents his Christian hero, at the end of his eventful life, as passing through a turbulent river, typical of death; and after watching his progress through the stream, and shadowing forth his entrance among the blest, the dreamer adds with loving aspiration, "Which, when I had seen, I wished myself among them!"

He ceased, and a profound silence prevailed; for although each was desirous of testifying his respect and affection, all were spell-bound; continuous speaking having evidently been too much exertion for the exhausted frame of the artist.

The black steward, without directions or request, placed a tray with refreshments on the table before the speaker, then quickly and quietly retired; no word was spoken, but the simple act showed that beneath his tawny skin, a human, brother's heart was beating.

"One touch of nature makes the whole world kin."

At length a sturdy Scot stretched forth his brawny arm, and grasping the hand of the artist, was about to thank him on behalf of the company, but his manly soul gave way, and with jumbling confusion as of a maiden speech, he could only stammer out, "Courage, my lad;" and turning away his head to conceal his emotion, retreated to his cabin.

Later in the evening a violent cough and sickness told too plainly of the firmer grasp with which disease had laid hold of its victim; and many that night had troublous, half-sleeping, half-waking dreams of him who had so touchingly uttered the words, "I wished myself among them!"

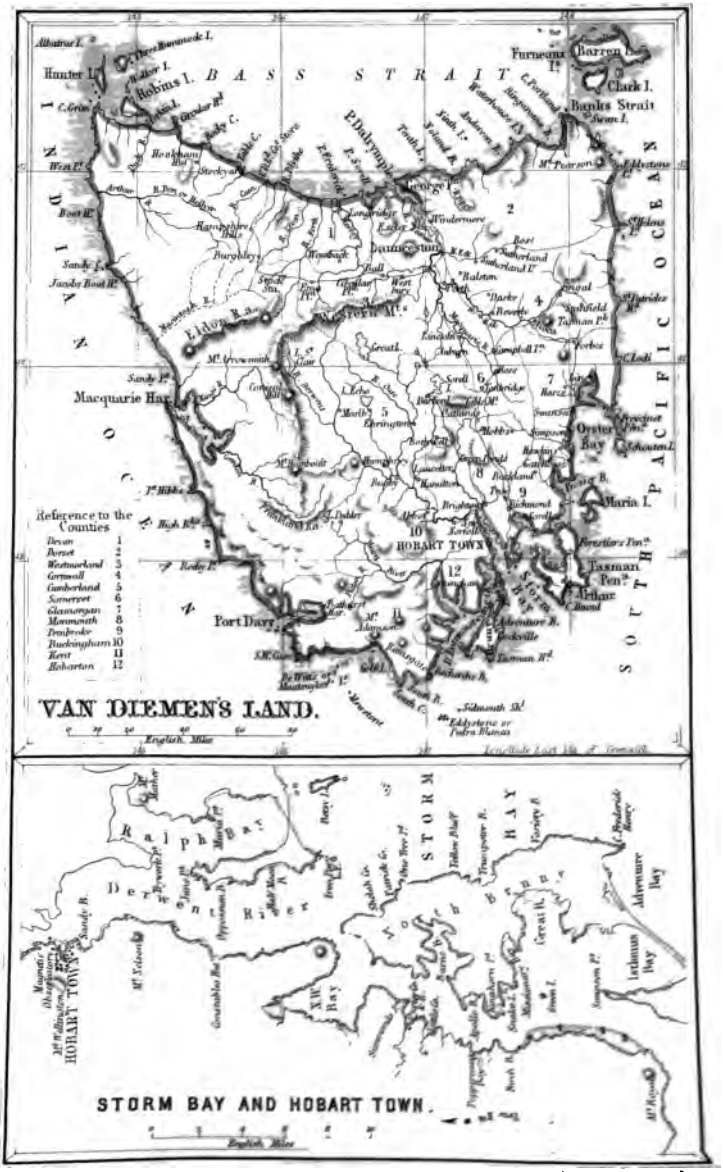
TASMAN'S RETURN.

CHAPTER XII.

VAN DIEMAN'S LAND—TASMANIA.

"But upon the fairest boughs
Or at every sentence' end
Will I Rosalinda write." SHAKSPEARE.

FOREMOST amongst the nations which profited by the passage of Vasco de Gama round the Cape of Good Hope to India were the Dutch; who, settling on several of the inter-tropical islands, early secured the valuable trade in spices, a large portion of which they have retained to the present time.


Hunter I.
Robbins I.
B A S S S T R A I T
Furneaux Is.
Barren I.
Clark I.
Banks Strait
Flinders I.
Macquarie Har.
Oyster Bay
Maria I.
Tasman Pen.
Port Davy
HOBART TOWN
Storm Bay
Adventure Bay
Bruny I.
Recference to the Counties
Devon 1
Dorset 2
Westmorland 3
Cornwall 4
Cumberland 5
Somerset 6
Glamorgan 7
Monmouth 8
Pembroke 9
Buckingham 10
Kent 11
Roberton 12
VAN DIEMEN'S LAND.
English Miles
Ralph Bay
Derwent River
STORM BAY
Adventure Bay
Storm Bay
HOBART TOWN
STORM BAY AND HOBART TOWN.
English Miles

In Java, they cheered one another by reminiscences of their fatherland in the icy north, and returning to their native low-land homes in Holland, the fortunate adventurers incited others to follow in their steps by their glowing narratives of the rich, warm, luxurious east, and the exhibition of the solid practical results of their temporary exile.

From their principal settlement in Java, these enterprising Dutchmen started afresh on various voyages, with a view to still further extend that profitable commerce which had rendered Holland so rich, powerful, and famous.

One of the most active in prosecuting these researches was Abel Janz Tasman, who, in 1644, sailed from Batavia on an expedition of exploration and discovery. A lover's heart beat within the breast of the gallant Dutchman; and while preparing his little ship for the mysterious voyage into unknown seas upon which he was intent, his visits to the governor's house, in order to fully understand the instructions of that official, Antonio Van Dieman, were necessarily frequent; the more so, perchance, because on those pleasant occasions, listening to the interesting tales of past hair-breadth escapes and projected adventures, by the side of the wise governor stood his loving daughter, Maria.

The flag which blew out from the peak of the little bark had been worked by her delicate fingers, and the brave sailor had vowed that, after leaving Batavia, it should not be displayed until he could unfurl it on land as then unknown; and when the time for the departure of the expedition had arrived, and Tasman's ship stood out to sea under a salute from the battery and amidst waving of hats and kerchiefs, and flying of flags, the last to leave the post of observation was Maria Van Dieman.

Full well did Tasman keep his vow; for, with true sense of love and duty, he named his first discovery after the governor and his lady-love "Van Dieman's Land;" anon he observed a small islet reposing as a gem on the fair bosom of the larger land, this he christened "Maria;" and thence sailing away before the

strong westerly breezes, the intrepid seaman steered towards the unknown east; and having given the surname of his beloved to his first discovery, and her Christian name to the second, but one more combination remained possible, the union of her Christian and surname; and thus his third discovery, the first portion of New Zealand ever seen by Europeans, still rings of true love in the name of its northernmost point, "Cape Maria Van Dieman."

Joyously the brave bold sailor returned with wondrous tales of new-found land; and as gun after gun rumbling over the deep silent sea aroused the attention of the Batavians, one gentle discerning ear caught up the dying echoes, and with throbbing heart the governor's daughter wended her way to the port's extremest point, and as the vessel rounded to and dropped anchor, the cannon of the castle boomed out a noisy welcome, and the ships in port manned yards, and greeted with lusty cheers the returning successful navigator.

Doubtless as a happy spouse, Maria Van Dieman, merging her name in that of Tasman, just as the appellation of the island has been changed from Van Dieman's Land to Tasmania, long loved her husband for his noble virtues as for the dangers he had passed.

From the period of Tasman's visit until 1798, Van Dieman's Land was supposed to form a peninsula of the Australian continent, and received but few visits from European navigators. In the latter end of that year Captain Flinders and Mr. Bass, surgeon, coasted the southern shore of New Holland, and sailed round Van Dieman's Land, arriving back at Sydney in January, 1799; having ascertained that a large strait, sprinkled with clusters of small islands, many of granite formation, and abounding in seals and aquatic birds, divided the Australian main from Van Dieman's Land; to this strait Captain Flinders gave the name of Bass, in honour of his companion, who had been so enthusiastic in exploring the new continent.

In a small boat, which they designated "Tom Thumb," with

only one boy assistant, Lieutenant Flinders and Mr. Bass had in 1795 explored 300 miles of the coast south of Port Jackson, and Mr. Bass had subsequently in an open boat extended his surveys to the distance of 600 miles from Sydney.

The South-West and South Capes are the portions of land first seen on approaching Van Dieman's Land from the westward; close in shore the group of Maatsuyker islets lie as guardian dogs, exposed to the rough waves and cold blasts from the icy south pole, watching with silent gaze the Southern Cross rise upon heaven's field of the cloth of gold. Passing to the southward, or between the Mewstone and the Eddystone rocks, we near Bruné Island, the wild bold coast becoming more subdued in character, the high peaks, elevated flats, or table lands, sweeping valleys, and dense forests, being succeeded by the pleasant view of farm clearings; while curling pale blue smoke rising from house and cot, suggests thoughts of happy human homes, as we sail round the dark Friars' Rocks and up Storm Bay, or the more sheltered D'Entrecasteaux's Channel.

Promontories of greenstone in various parts of the island, as Fluted Cape, Cape Pillar, Cape Raoul, Circular Head, testify of the intense igneous action to which primeval Tasmania must have been exposed; the bold gothic columns of these heights, around whose base the huge waves play their solemn eternal music, are so symmetrically grouped together as to suggest the idea of their having once formed colossal pillars of disrupted giant temples.

For a little Goshen commend us to a cozy farm on the banks of the spreading Derwent; there, reclining in a rose and fuschia bower on a grassy slope shelving down to a pebbly beach, off which our anchored pleasure fishing boat sways in harmony with the hushing song of the bright rippling stream, we may watch the passing ships; and while we gaze, one and another tall vessel drifts round yonder point, borne onward by the flowing tide, their silver sails scarce bellying to the soft slumbering wind; bedecked

with variegated streamers, one passes now, and as she glides along with slow, stealthy, measured pace, her signals repeated from the flagstaff on Mount Nelson, announce to the embayed town beyond that a ship from home is at hand.

Suddenly a dull gloom passes over the water; it is a squall coursing along the surface, for the moment beating the calm lake into small shadowy billows. "Luff!" cries the pilot to the helmsman. "Keep all you can," and "luff again," continues he, as the vessel careers through the parting stream towards her anchorage.

We hear the shrill whistle of the boatswain, and a movement on board tells of the crew hastening to quarters; one minute more and the sharp sound is heard again, and mainsail and foresail are clewed up; halyards of topsails and topgallantsails let go; the mizen is brailed up, and the jib flies loose in the strong breeze, and notwithstanding these precautions, the lee points of the lower yards seem to furrow the waters.

It is as though the mighty spirit of our opposite neighbour, Mount Wellington, incensed at his majestic repose being broken by a succession of new arrivals, with a puff of angry breath would scatter the intruders, ships, cargo, and crew, to the elements; but the good genius speedily relapses into loving warmth, and pleasant quiet, and all is peaceful as before.

Surrounded by fattening kine, luxuriant crops of fruit, and seas of golden wheat, belted in with forests of blue gum trees, the sons of the soil live in peace, plenty, and health, in this favoured land. And should Master Wombat or Bandicoot during the night take a liking to our field of ash-leaved potatoes, on the morrow, with our faithful dog Keeper, we will track him home, and in stern, perhaps unfair, reprisal, half-a-dozen bronze-wings, whose whereabouts we discover by their well-known coo and whirr and rustle among the podded wattles, shall fall before our unerring gun.

Or, for a novelty, we will seek and hunt that extraordinary

mammalian animal known as the ornithorynchus paradoxus, or duck-billed platypus, peculiar to Tasmania and New Holland.

This animal is about twenty inches long, having a flattened body, somewhat like the otter, and is clothed with a dark soft fur. The elongated nose very much resembles the beak of a duck, like which these animals feed upon water insects, shell-fish, and aquatic plants.

ORNITHORYNCHUS PARADOXUS—PLATYPUS.

The feet are five-toed and webbed, and in the fore-feet this membrane extends beyond the nails; the male is armed with a spur on each hind leg. This curious animal, in which a duck's beak is united to the body of a quadruped, rolls itself up like a hedge-hog when it sleeps in its burrows on the banks of the streams whence its food is derived.

Hobart Town, the capital of the island, leans against the slopes of Mount Wellington, whose rugged greenstone summit, 4,000 feet in height, is capped with snow eight months in the year; its base being clothed with brushwood or scrub, so dense and high as to render it unsafe to depart from the regular worn tracks; wanderers therefrom, unable to force their way through, having frequently been found dead, almost within call of human abodes.

Standing upon and spreading over several hills, with broad streets running at right angles, its brick-built houses give a thoroughly English aspect to Hobart Town; while below and

beyond, the crystal waters of the Derwent thread their ever-varying way in graceful curves around lofty hills, and into sheltered nooks dotted with farms, smiling villages, ruddy apple orchards, and cottages overtrailed with geraniums, on the borders of its pleasant shores, all being thrown into bold relief by the heavy forest masses in the back ground.

A wide quay, crowded with oil casks, stacks of timber, cases and packages of merchandise of every description, fringes the

HOBART TOWN.

cove which laves Hobart Town; a broad pathway on the wharf close to the water's edge being preserved for foot-passengers; and there, in line with rice ships from India, Mauritius sugar ships, and discharging whalers, the Petrel lay safely moored.

The deck had been well scrubbed, as was the wont of her careful chief officer, who loved his ship; the yards, standing and running rigging, were all taut and trim, and the ensign lay upon the locker, bent to the halyards, ready for hoisting on the first stroke of the eight bells, which would summon the crew to breakfast.

Shortly before this hour a portly personage, holding a young maiden by the hand, walked up the gangway, and replied by a

kindly touch of his hat to the salute of the chief officer, who advanced to meet the visitor; at the same moment the signalman ran the ensign up to the peak, for the visitor was worthy of all honor—it was the Governor, Sir John Franklin.

He had been attracted by the fine bows of the Petrel, and her clean run astern, and therefore came on board; he now scanned

SIR JOHN FRANKLIN.

the masts and gear aloft, and next noticed the decks and lower tackle.

"Smart, clean ship, officer," said the Arctic Navigator; "she reflects great credit upon you, sir. I have always observed that as are the officers so is their vessel. I like to see officers take pride in their ships." After a little further conversation on various topics the good-natured Governor departed, saying, "Present my compliments to your commander; good morning, sir."

"Good morning, your Honor," replied the well-pleased chief

officer, as he conducted the veteran to the quay along which Sir John and his little friend continued their morning walk.

On the peninsula of Port Arthur is the settlement for the doubly-convicted and worst criminals; here, guarded by a cordon of bloodhounds, the wretched men pass their weary lives, and callous indeed must that mind be which can witness unmoved these thousand chained men, cast off and spurned by society for their crimes, worshipping the God of justice and love.

The convicts having formerly expressed a preference for a minister of the Wesleyan denomination, one of those worthy men has ever since been stationed at the place as chaplain.

A file of armed soldiers being arrayed on either side of the pulpit, the minister ascends, and after a simple hymn, and the offering of devout prayer amid intense silence, the sacred sublime lessons of peace towards God, and good will to man, are taught to many who never before experienced human sympathy, and hear now for the first time of duty, truth, morals, and religion.

Van Dieman's Land formerly received many cargoes of female convicts; of these some were employed in washing and sewing for the male convicts, and also for the colonists generally; others were assigned to the residents as domestic servants, and a sadly incorrigible set they were.

A newly-arrived lady of our acquaintance obtained a convict-servant from the depôt, in the usual manner, and the new inmate seemed a model of neatness, industry, and politeness. On the second day of her residence, the maid requested permission to remove to her new home a box containing her best clothes, which, by her statement, had been left at her former situation. The unsuspecting mistress consented to the requisite temporary absence, and great was the alarm in the house at the non-return of the servant, fear lest some accident had befallen her being the uppermost sentiment.

The next day, Sunday, was passed in anxious suspense, some-

what alleviated by the assurance of older residents, that the girl would probably be discovered on the Monday morning, and most likely in the lock-up; which surmise proved correct, for the model housemaid had been found by the police at midnight, drunk and uproarious, and in that state conveyed to the prison. Of course the tale of the box turned out to be a fib, a ruse "to get a fly."

Oft they would intimate that the only difference between them and their mistresses was just the accidental circumstance that one class had emigrated for fear of being transported, and the other class, the "government people," as they termed themselves, not having been quite so prudent, had been caught; and so all had arrived at the same place.

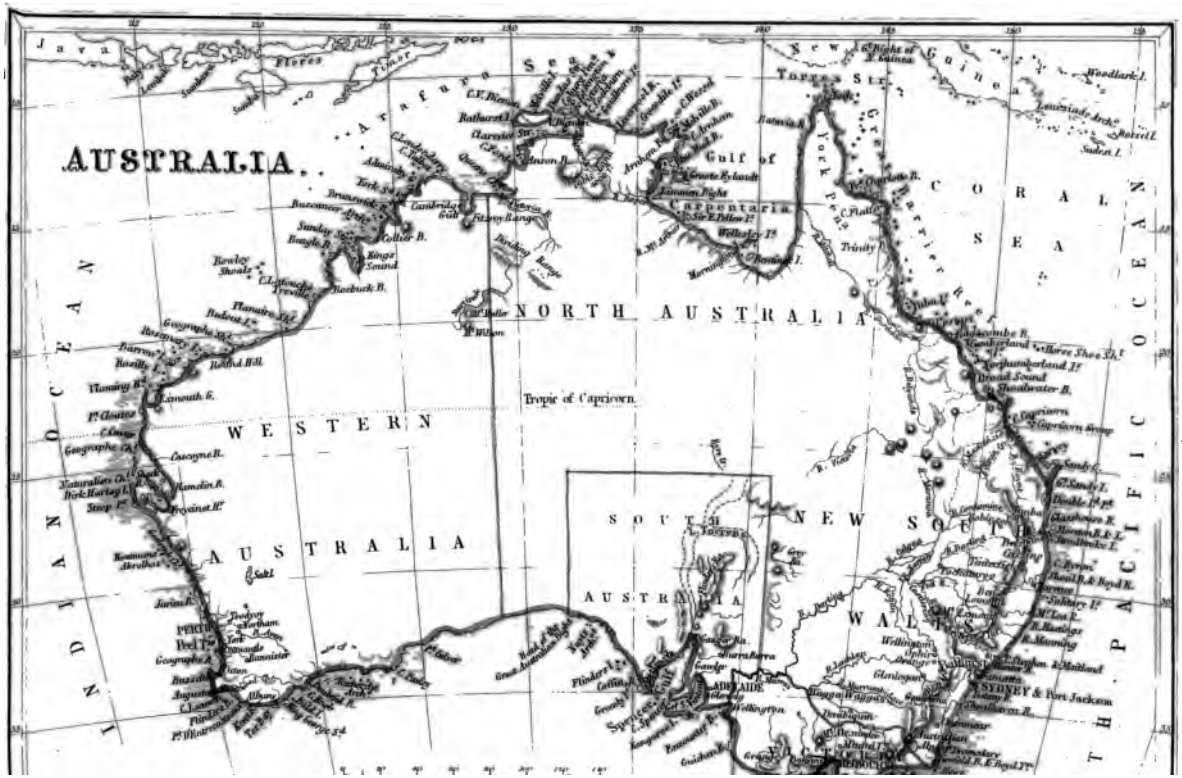
One young lady, indignant at the prudence of her mistress in locking drawers and cupboards, assured her that suspicion against her attendant on that ground was unnecessary; she, the maid, would scorn to be a thief, she had not been sent out for stealing, she had been sentenced for murder.

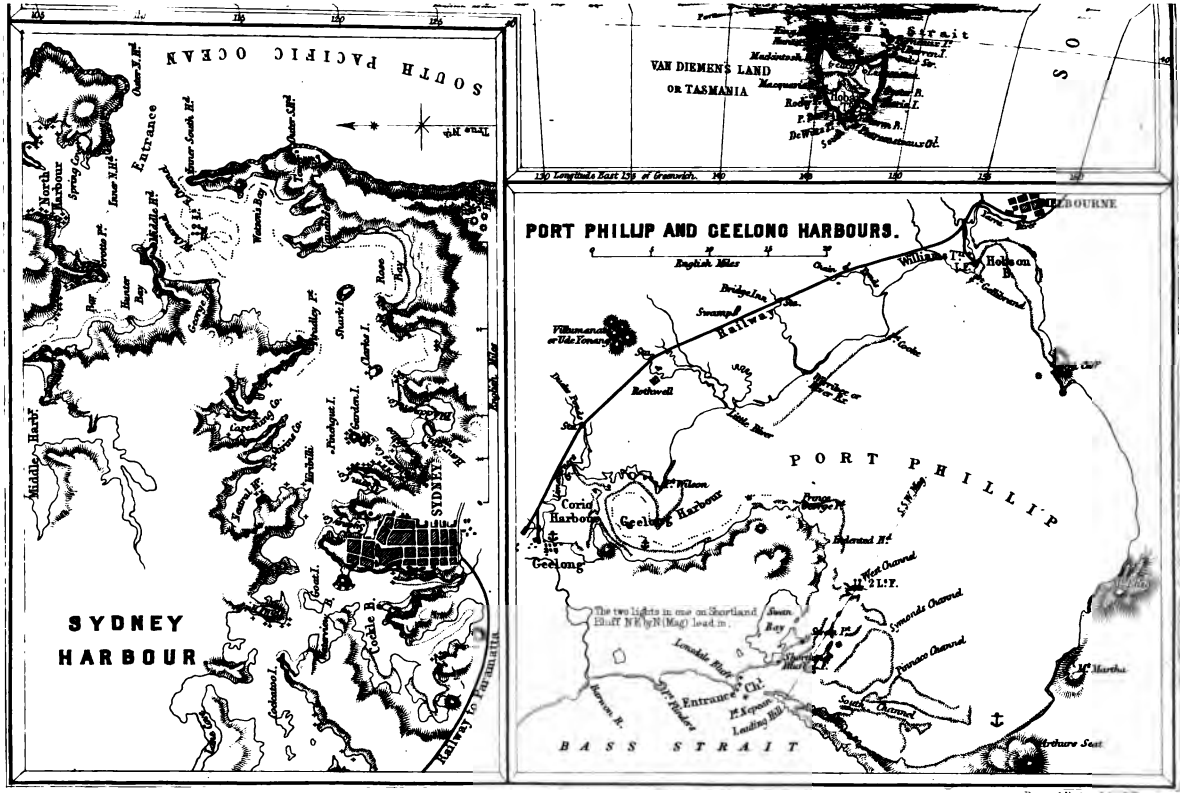
For many years a desultory warfare was carried on by the outlying stock-keepers and farmers against the aborigines; and to "knock over a native" was almost as good sport as to bag a kangaroo. A wholesale attempt was once made to capture the poor wretches en masse, and all free colonists who were so disposed joined in the amusement of the hunt; and the country being thoroughly beaten for the game, the blacks were driven into a small peninsula; strange to say, the cooped up natives escaped one night through the camp of their pursuers, whether by connivance or by their own cunning has never been clearly made out. No one was the better for the battue, save the parties who contracted to provision the huntsmen, the government defraying the cost of their sustenance. At a subsequent period, a benevolent gentleman, Mr. Robinson, undertook by kindness and persuasion to bring in the natives, and what the armed host failed to achieve he accomplished single handed.

The few remaining aborigines, the last of their race, were afterwards removed to Flinder's Island, in Bass's Strait, where, living in idleness upon rations supplied by the government, they have become, or will soon be, as extinct as the Dodo, or the Megatherium.

Heavy crops of wheat, barley, oats, peas, beans, potatoes, turnips, and fruit, annually prove sources of solid wealth to the farmers, particularly on the Launceston side of the island, where the rich and fertile vale of the Tamar, blessed with ample rain and sunshine, produces matchless cereals and vegetables, of vast service to the neighbouring colony of New South Wales in seasons of drought, to which it is sometimes subject.

To Tasmania, happy land, for climate, soil, health and beauty, for a while farewell. We leave the little round islet known as the Iron Pot, and almost touch the organ pipes of Cape Pillar; next we pass the cocks-comb of Maria Island, and looming high up there above the mist which veils the face of ocean we perceive the Three Patriarchs on Barren Island; and running along the coast of New South Wales, pass the broad entrance of Botany Bay; and shooting beyond the South Bluff, open out the lovely harbour of Sydney.


AUSTRALIA
NORTH AUSTRALIA
WESTERN AUSTRALIA
SOUTH AUSTRALIA
NEW SOUTH WALES
Tropic of Capricorn
Java
Timor
Arafura Sea
Gulf of Carpentaria
Torres Str.
New Guinea
CORAL SEA
INDIAN OCEAN
PACIFIC OCEAN
Great Barrier Reef
PERTH
ADELAIDE
SYDNEY & Port Jackson


SOUTH PACIFIC OCEAN
SYDNEY HARBOUR
SYDNEY
Railway to Parramatta
VAN DIEMEN'S LAND OR TASMANIA
Strait
130 Longitude East 135 of Greenwich.
PORT PHILLIP AND GEELONG HARBOURS.
MELBOURNE
Williamstown
Hobson Bay
Railway
Swamp
Geelong Harbour
Corio Harbour
Geelong
PORT PHILLIP
Swan Bay
Entrance
Point Nepean
Arthurs Seat
BASS STRAIT
Drawn & Engraved by J. Popkin.

SYDNEY.

CHAPTER XIII.

NEW SOUTH WALES—PORT PHILLIP—GOLD.

"Where there is gold."—Gen., 2nd chap., 11th ver.

THE Great South Land, Austral Asia, Terra Australia, New South Wales, New Holland, by all these names has the continent to which this chapter refers been designated.

The magnificent discoveries of the continents of America in that expansive period of human intelligence and action, the 15th and 16th centuries, induced a dreamy impression that some counterbalancing land would be found in the opposite quarter of the globe; and the realization of this geographical speculation was attempted by the Spaniards, who started on the expedition from their far-west colony in Peru, and also by the Dutch from their eastern settlement in Java.

In 1605, Pedro Fernandez de Quiros and Luis Vaez de Torres sailed from Peru to search for this Austral Land which loomed up to their imagination in the distant western horizon, and they discovered several of the islands now included in the New Hebrides

group; and after separation from his chief, Torres navigated the placid coral-reefed straits lying between New Holland and New Guinea, since known by his name, Torres Straits.

In the same year the Dutch despatched a ship from Bantam to explore New Guinea; and on its return the vessel sighted the coast of Continental Australia; and in 1622 the south-western extremity was seen and called Leeuin Land (Lioness Land), from the name of the ship which observed it; and five years afterwards Peter Van Nuyts sailed along the southern coast from Cape Leeuin nearly to Spencer's Gulf.

The Dutch share in the work and honour of discovery was completed by the investigation of De Witt's Land and the Gulf of Carpentaria, the first named after the commodore of the squadron, and the second after the general who surveyed the gulf.

Little was achieved beyond the mere knowledge of the existence of these places, until the first voyage of Captain Cook, who, after his visit to the islands of New Zealand, sailed westward, and keeping a more southerly course than Quiros and Torres, fell in with the mainland of Australia; and anchoring in a bay on the east coast, gave to it the name of Botany Bay, from the peculiar, novel, and wondrous flora found in the neighbourhood by the naturalists of the expedition. "On Sunday, the 6th May, 1770," says the narrator, "we sailed from Botany Bay, and at noon were off a harbour which was called Port Jackson (from the name of the sailor who first noticed it), and in the evening near a bay to which we gave the name of Broken Bay."

When the United States of America obtained their independence, some other home for English criminals became necessary, and this newly-discovered region being selected, eleven vessels sailed from the Mother Bank, on the 13th May, 1787, conveying 565 male and 192 female convicts and their guard, and this small pioneer fleet arrived in Botany Bay in January, 1788.

On reaching their destination, it became apparent to the

Governor, Captain Arthur Phillip, that Botany Bay, from its exposure to the heavily rolling sea surf, raised by easterly gales, and the scarcity of fresh water, was not a favourable situation for a settlement, he therefore proceeded northward in a small boat to examine Broken Bay, with a view to the removal of the colony; on his way thither he must necessarily pass the inlet of Port Jackson, which Captain Cook had marked as a boat harbour; and on entering the jaws of the two Mountain Bluffs, which overlapping one another, preclude from passing ships the panorama of the inner waters, the astonished, admiring governor perceived opening out before him a romantic, land-locked, extensive harbour.

Removal thither was instantly resolved upon, and to this new port the fleet brought round the infant colony; the British ensign being hoisted on the shores of Sydney Cove, on the 26th January, 1788, the anniversary of which event is celebrated in the colony as a general holiday and day of rejoicing, salutes being fired, flags displayed, pic-nics and excursion parties organized, sailing, rowing, and cricket-matches contested.

This germ of a future empire, numbering one thousand persons in all, free and convicted (in 1856 the population of New South Wales amounted to 269,720 persons), speedily commenced the work of civilization:—

"Now bowed the woods beneath their sturdy stroke,"

tents being pitched on the land thus cleared; and so much did the newly-born metropolis resemble the bivouac of a small army that a visit to Sydney was long termed by early colonists "going to camp." At this period the live stock consisted of one bull, four cows,one calf, one stallion, three mares, and three colts.

The new comers were not allowed to possess their promised land without dispute, the settlers experiencing great molestation from the natives; and of the founders of Sydney, as of the builders

of Jerusalem, after the captivity, it may be said, " Every one with one of his hands wrought in the work, and with the other hand held a weapon."

Low down in the scale of humanity, the native Australians hardly rise to the intelligence of many forest brutes, which surround themselves with something that may be termed a home; these wandering specimens of the human race, when they wish to sleep, erect a piece of bark or bough as a shelter or break-wind, make a fire by rubbing two sticks, and with scarcely invention enough to ensnare the myriads of birds which abound overhead, or entrap the kangaroo or emu, ramble in listless uncertainty, obtaining a precarious sustenance by unskilful fishing or upon roots.

So feeble is their nervous system that a pailful of water in which an empty Mauritius sugar mat is steeped, composes an intoxicating liquor sufficiently powerful to make twenty persons ludicrously drunk; and for the fun of the resulting effects these mats were sometimes given by the colonists to the blacks, until prohibited on account of the mad excitement caused by this weak sugar-water.

The settlers found their new home placed amidst a peculiar vegetation, and surrounded by animal life of singular forms and habits. Prominent among the vegetable novelties were forests of acacias, which trees are most frequently so destitute of true leaves as to be considered leafless, the petiole or leaf-stalk being expanded, and presenting a leaf-like surface, whose functions it performs.

The true leaves are chiefly discernible in young plants, and it is not uncommon to find all intermediate degrees of development between the fully expanded leaf with narrow stalk, and other leaves having no blade, but in lieu thereof a broad fleshy footstalk.

The bark of this order of trees, (fabacæe, or leguminosæe, sub order mimosa) has formed a profitable article of export to England, for the use of tanners.

Gigantic eucalypti, called gum trees, many of them a hundred and fifty feet high, and from thirty to forty feet in circumference, adorn the landscape, while the curious xanthorrhea, or grass-tree, with shrubby short stem, bearing tufts of long foliage at the extremities, from the midst of which rises a long cylindrical spike of flowers resembling a bulrush, and elegant araucarias add to the peculiar beauty of the scene.

These magnificent forest trees of perpetual verdure afford home and food for millions of bronze-winged pigeons, cockatoos of every variety of plumage; some many-coloured, some of jet hue, others

LYRE BIRD.

milk white; parrots, green, purple, and crimson; superb lyre birds; regent birds in glorious plumage of golden yellow, and silken

velvet black; and rifle birds with glossy mailed breastplate of dark rifle green, and that hoarse, boisterous bird, the laughing jackass.

Emus, rivalling the ostrich in fleetness, and swans perfectly black, were new and strange wonders to English eyes.

EMU.

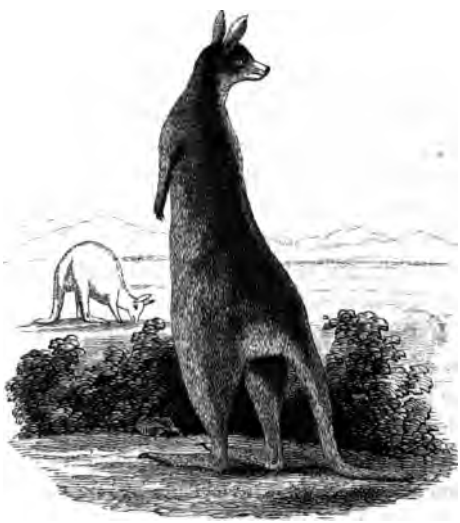
Not less remarkable were the Australian mammalia; no prowling lions or bears, or pasturing deer, or elephants inhabit this large continent, but an altogether singular group of animals, the marsupials, bound over its vast plains by gigantic leaps.

The different species of marsupials agree in their general structure and those characters which refer to the premature production and subsequent nutrition of the young in an abdominal pouch with which nature has provided the female parents. In this pouch the young are protected as in a nest, and in early infancy retire thither if alarmed, and are thus carried off by the mother; coming out to graze or to gambol when all is secure.

This peculiar anatomical structure being restricted to animals found in portions of the globe in which rain is scarce, most of

them being inhabitants of Australia, with the exception of one or two species found in South America, has led to the conjecture that this singular conformation is a provision in cases of drought to which such localities are subject.

If, in seasons of long absence of rain, which in these countries sometimes occur, the parent had to leave her progeny and travel a considerable distance to obtain water, before her return the



KANGAROO.

young marsupials might be dead; hence this movable nest is attached to the person of the female, in which the young can be conveyed by the mother to the necessary supply of water, either for herself or them.

Another peculiarity of the marsupial order is the weakness of the voice which prevails throughout the group; and even this faint voice is seldom heard.

Of the kangaroos, which are the most noted of the marsupials, there are nearly forty species known, varying much in size, some attaining the length of eight feet from the nose to the tip of the tail, and weighing two cwts.; the flesh is good eating, and a kangaroo hunt is considered excellent sport; but the difficulty of catching or shooting them has increased, avoidance of Europeans saving them from being shot; and their marvellous leaping power, and ferocity when attacked by dogs, enabling them to sustain a chase on fair terms.

Hundreds of criminals were yearly transported from the mother country to found a new Britain in the southern world; and tickets of leave were granted as rewards for good behaviour, which passes or certificates, while they prohibited the recipients from leaving the colony, permitted them to work for their own benefit, either by labouring for hire, or engaging in business as principals, and a new life being thus opened to these persons, many became rich and honorable.

Tickets of leave in a new unpeopled country, with scarcity of labour, are sources of undoubted good;—to the condemned, in whom hope is thus revived, and a new opportunity afforded of fulfilling the moral and social duties, and obtaining the advantages of life, and surely such a result is in every respect desirable—the colonists also benefit by this system, being enabled to obtain more abundant and economical labour.

The question of tickets of leave in an old or peopled country assumes an entirely different aspect, for where ten free applicants compete for every vacant post of labour, it is cruelty to the criminal to start him afresh in the race of life with a tremendous blot on his name, and at fearful odds with the unconvicted; he has scarcely any chance of subsistence but by resorting to his previous course of life, with such additional skill and intensified vice as his prison thoughts and companions may have suggested. Prison piety is hypocrisy.

Moreover, it is an unfair slur upon the untarnished character of the free artizan, who, if a convict workman is accepted to his prejudice infers that virtue goes for nothing with employers; and those who may be required to work with ticket men must either give up their employment or lower their tone of morals, by associating at the same bench with convicted thieves and murderers. By going to a new colony the free laborer voluntarily seeks competition with the felon population, and these objections do not obtain.

The fresh locating of felons in any given place, or the discontinuance of transportation to any particular colony, depends upon other considerations; here is simply discussed the question of tickets of leave as a wise course in an old country, or the contrary; it is, without doubt, an intense, unmitigated evil.

Some of the criminals acquired fortune and respect; others escaped to the bush, where, obtaining arms, they lived a roving, freebooting life; and hunted, or were hunted down by the settlers, according to whichever party happened to be the stronger at the moment.

The bushrangers were not generally addicted to the commission of murder, but waylaid the returning drays, with whose loads of tea, sugar, flour, clothes, and alcoholic liquors they decamped; and sometimes entered lone houses, "baling up" the inmates lest any should escape and alarm the neighbouring settlers.

"Baling up" was effected by placing the residents in one room, over which an armed bushranger stood guard while his companions ransacked the premises, packing up whatever articles were intended to be taken; and on these occasions their hardly-ridden spent horses were exchanged for fresh ones with which the stables of settlers were for the most part well provided.

A huge mountainous back-bone runs from Van Dieman's Land through the whole continent of Eastern Australia; this great chain is not a single ridge, but a broad tract of elevated land,

from which rise many mountain ranges, varying in height and extent; some being steep and broken with deep ravines, and assuming so much the character of cliffs on a bold sea coast, that it is possible to drop a stone a thousand feet down on to the forest below; while for a human being safely to descend to the foot of the trees a circuit of sixteen miles would be necessary to find a path into the valley.

Sailing along the east coast, the promontories formed by spurs from this mountain range form well-known headlands of such curious configurations as to have suggested to Captain Cook the appropriate names of Mount Camel, the Pigeon House, Hat Hill, Mount Dromedary, &c.

Other portions constitute vast table lands of considerable elevation above the sea level, affording excellent pasturage for millions of sheep and cattle; and thousands of settlers, either purchasing sheep or taking charge of the flocks of others, on shares of profit, banish themselves from society for the year round. These squatters visit the principal towns annually, to sell their wool, procure clothing, tea, tobacco, flour, &c., for the following season of absence; and drays drawn by sturdy oxen thronging the streets indicate that the wool season has commenced, and every store is busy with the numerous commissions of the returning up-country settlers. Variously combining mutton, tea, and damper, for breakfast, dinner, and supper, the sheep farmer passes his life in the company of his dudeen; and the operations of cutting his negrohead tobacco into fine shavings, and rubbing it between the palms of his hands, into fitting atoms for his short black pipe, doubly increase the joy of the fragrant weed. Damper is flour mixed with water, and baked in wood-ashes, and after a time is preferred to fermented bread by all true bushmen.

Shearing, hunting the kangaroo, shooting birds, wild dogs, and riding after stray cattle, or to a neighbouring stockyard some twenty miles distant, serve to amuse and give healthy exercise to the free, independent, and self-relying squatter.

At an early period of the colony's history the climate and grasses of the interior of New South Wales were found to be adapted for the Merino sheep, and in 1803, Mr. John Macarthur, who had some years previously obtained a few pure-bred sheep from the Dutch colony at the Cape of Good Hope, returned to England with specimens of Australian wool, and in 1806 conveyed to the colony two ewes and three rams from the flock of King George III. Thus royally originated the flocks of Australia.

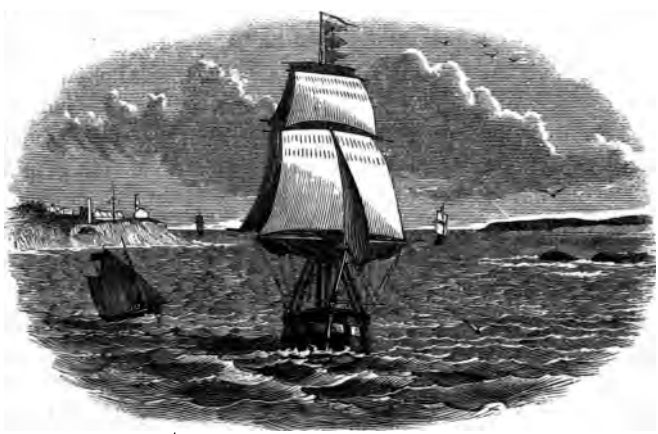
The first importation into England of this wool was 245 lbs., in 1807; in the year 1851, the Australian wool imported amounted to upwards of 36,000,000 lbs., valued at two millions sterling.

On approaching Port Jackson, the thinly-grassed sandstone cliffs, projecting into the sea as solemn warders, impart an unfavourable impression of sterility, and Botany Bay gives faithless promise of a good and safe haven; presently a lighthouse on a lofty cliff is observed, but we seem sailing up to a dead wall, so shut in is Sydney harbour by the North and South Heads. On further advance between these bold bluffs, a vast indented lake spreads its clear blue waters before us. The shores hollowed into snug coves, margined with silver sands or laminated sandstone cliffs, invite to anchor and repose by their offers of quiet shelter and deep water close to the beach; the bright sunlight glinting on the sombre foliage of the evergreen vegetation, contrasting strongly with the back ground of white sandstone; imbue the soul of the newly-arrived with a sense of intensely refreshing delight after the monotony of a sea voyage.

Proceeding up this magnificent lake, of which, says Sir Edward Parry, the Arctic navigator, "words can never describe the beauty," bearing on its glassy surface all descriptions of boat and vessel, whose every rope and spar is strongly reflected in the translucent stream, we pass large and elegant villas on the slopes of the deep coves, their stonework glittering in the warm sunshine, being thrown out in bold relief against the dark verdant forest in which they stand embowered. Now we meet a panting

steamer, swiftly rushing to the Hunter; and now a full-rigged ship gently gliding seaward, bound home, or to India; and next shoot past forts on headlands, and rocky islets in midchannel.

Proximity to some hive of human industry becomes more and more apparent as we sail by ships at anchor, and forests of masts become visible over jutting points of land; then suburban Woolloomoolloo presents itself, home of rich merchants; and a more imposing isolated residence betokens the dwelling of a superior functionary, while a dense mass of houses and stores, wharves and warehouses, near the Fort and on Miller's Point, suggest rather than reveal a large city, for Sydney is placed sideways to the harbour, and the numerous indentations and projections of the land so hide the various portions as to preclude the imposing water-view which many far less important cities present.



PORT PHILLIP—THE ENTRANCE.

The eastern portion of the south coast of New Holland forms a wide open bay, bounded by a tract of comparatively low wooded

land; at its north-western corner is a narrow opening, the entrance of Port Phillip, and on the east of this inlet stands a rocky promontory, Point Nepean. Advancing through the gut or channel, we open out a large sheet of salt water, an inland sea in fact, between thirty and forty miles across, connected with Bass's Straits by a natural ship canal; on the left is Geelong, and before us is the Yarra Yarra, nine miles up which small stream stands Melbourne, now the the capital city of the Southern World.

The discovery of this expansive bay was made in the beginning of the present century, and is thus described by the indefatigable Flinders:—

"On the west side of the rocky point there was a small opening with breaking waters across it, however on advancing a little more to the westward the opening assumed a more interesting aspect, and I bore away to have a nearer view. A large extent of water presently became visible within side, and although the entrance seemed to be narrow, and there were in it strong riplings like breakers, I was induced to steer in.

* * * * *

"The extensive harbour we had thus unexpectedly found I supposed must be Western Port, although the narrowness of the entrance did not agree with Mr. Bass's account. On my return to Port Jackson, I found this place had been discovered about ten weeks before my visit (April, 1802), by Lieutenant John Murray, who had succeeded Captain Grant in the command of the Lady Nelson; he had given it the name of Port Phillip, and to the rocky point on the east side of the entrance that of Point Nepean; and to an eminence within the bay, Arthur's Seat, from its supposed resemblance to the crag of that name near Edinburgh. The country around Port Phillip has a pleasing and in many parts a fertile appearance. It is in a great measure a grassy country, and capable of supporting much cattle, though better calculated for sheep."

In 1803, Captain Collins arrived, with the intention of forming a settlement, but abandoned the place in a short period, probably not finding fresh water so near to the straits as he deemed desirable that an infant colony, surrounded by hostile natives, should be located, he therefore removed to Storm Bay, founding there the colony of Van Dieman's Land.

Slight attention was paid to the capabilities of the Port Phillip district until about the year 1835, when the neighbouring colonies became aware of the truth of Flinder's remark, "calculated for sheep," and thenceforward vast flocks of sheep, amounting in 1852 to six millions and a half, gave rise to extensive shipments of wool, and Port Phillip steadily progressed until 1851, when, as with the wave of a fairy's wand, from being a thriving branch of New South Wales, it suddenly started into the chief place among the Australian colonies.

From this period the development of Victoria has been magical; and the wastes over which, twenty years ago, the natives wandered in listless apathy, have been planted with thriving towns, teeming with Englishmen, busy, persevering, fortune-making. The very names of "Victoria," and "Melbourne," indicate the recent date of the settlement.

At the first burst of the gold-diggings the newly arriving hosts were compelled to dwell in tents, and "Canvas Town" will long be recollected by Victorians. To this condition of matters has rapidly succeeded the advanced state of civilization and population, understood by the ideas suggested by daily newspapers, railways, theatres, legislative assemblies elected by ballot, gas-works, banks, races, public buildings, and a well-endowed university. Sustaining its large and rapidly-increasing population upon its home produce, Victoria sends to the mother country vast quantities of wool and hides, &c., and the yearly export of gold from this and the other Australian colonies amounts to so many tons as represent a coined value of £20,000,000.

ADVANCE AUSTRALIA.

Gold.

The crust of the earth, as far below the surface as man has been enabled to descend, is composed of two great classes of substances; the one formed by the subsidence of matters previously suspended in water, and hence termed aqueous rocks, the other group from having been acted upon by heat, is therefore called igneous rocks, all of which latter series occupy a lower position than the aqueous deposits.

These igneous masses appear to have subsequently irrupted into some layers of the superincumbent deposits, and in the cracks or fissures which were formed in the cooling of these rocks, many minerals lay secreted, one of the principal being quartz, generally found opaque, but sometimes translucent and crystalline, in which state it is termed "rock crystal."

It is in these quartz veins that gold is generally found, either in small lumps or in flakes and grains, and sometimes diffused through the quartz in extremely minute particles. Water acting upon these veins disintegrates the masses, and washes away the fine particles of quartz sand from the gold, which sinks by its greater weight.

Hence gold is obtained either by searching the beds of present or former rivers, and picking out the particles of large or small size as the case may be—dry diggings; or by triturating the quartz into powder, and agitating the mixed mass in vessels with water, by which operation the sand separates from the gold, the latter falling by gravitation into suitable receptacles—wet diggings.

Gold is found in most countries, but so sparingly that it is only in some parts of the globe that the quantity is sufficiently large to compensate for the labour of procuring it. Its unchangableness, colour, lustre, and density have conferred on it the most elevated position among metals. Gold was originally obtained in the

river sands of India; it was also procured by the Pharaohs in Nubia and Ethiopia at the cost of much human life and suffering.

Diodorus relates of the Egyptian gold-diggers:—

"The vast number employed in these mines are bound in fetters, and compelled to work day and night without intermission, and without the least hope of escape; for they set over them barbarian soldiers, who speak a foreign language, so that there is no possibility of conciliating them by persuasion, or the kind feelings which result from familiar converse. When the earth containing the gold is hard they soften it by the application of fire; and when it has been reduced to such a state that it yields to moderate labour, several myriads of these unfortunate people break it up with iron picks. The strongest of the labourers, provided with chisels, clear the marble shining rock by mere force without any attempt at skill. Those who are above thirty years of age are employed to pound pieces of the stone, of certain dimensions, with iron pestles in stone mortars, until reduced to the size of a lentil. The whole is then transferred to women and old men, who put it into mills arrayed in a long row, two or three persons being employed at the same mill, and it is ground until it is reduced to to a fine powder. No attention is paid to their persons; they have not even a rag to cover themselves, and so wretched is their condition that every one who witnesses it deplores the excessive misery they endure. No rest, no intermission from toil are given either to the sick or maimed; neither the weakness of age, nor woman's infirmities are regarded; all are driven to their work with the lash, till at last, overcome with the intolerable weight of their afflictions, they die in the midst of their toil; so that these unhappy creatures always expect worse to come than what they endure at the present, and long for death as far preferable to life. At length the masters take the stone thus ground to powder, and carry it away to undergo the final process.

They spread it upon a broad table, a little inclined, and pouring water upon it, rub the pulverised stone until all the earthy matter is separated, which, flowing away with the water, leaves the heavier particles behind upon the board. This operation is often repeated, the stone being rubbed lightly with the hand; they then draw off the useless and earthy substance with fine sponges, gently applied, and the gold comes out quite pure. Other workmen then take it away by weight and measure, and putting it with a fixed proportion of lead, a little tin, and barley bran into earthen crucibles well closed with clay, leave it in a furnace for five successive days and nights; after which it is suffered to cool. The crucibles are then opened, and nothing is found in them but the pure gold, a little diminished in quantity.

Such is the method of extracting the gold on the confines of Egypt, the result of so many and such toils.

Nature, indeed, teaches that as gold is obtained with immense labour, so it is kept with difficulty, creating great anxiety, and attended in its use both with pleasure and grief."

The river sands of Hungary were at one period searched for this precious metal, and large supplies were obtained from that source; and the rivers of Africa have long yielded, and still continue to yield, a considerable quantity yearly, procured in the same manner.

The twenty shilling pieces, began to be issued in 1664, from being made of the gold brought from Guinea by the African Company, were for the first time called guineas.

The discovery of America by Columbus opened out new sources of supply; and from Peru, Mexico, and Brazil, Europe has received most of the silver and gold which have been employed during the last three hundred years, the quantity amounting to about £8,000,000 yearly.

During the present century the Ural Mountains in Russia have been worked for gold, and the annual production is estimated at £3,000,000.

In 1844, Sir R. Murchison, in his address to the Geographical Society alluded to the possibility of finding gold in Australia, from the geological similarity of its mountain chain to the Ural Mountains. The attention of a colonial gentleman being attracted by these remarks, he sought and found specimens of gold in 1849, but from excessive caution on the part of the governor the great subject was kept in abeyance until Mr. Hargreaves, with Californian experience, re-made the discovery.

This loadstone, the golden calf written against by philosophers, and worshipped by Hebrews and others in all time, has attracted many thousands to the antipodal country, whose earth "hath dust of gold," and has caused Australia to become world renowned as "rich in cattle and in silver and gold."

In 1848, the total amount of gold in use in the world was estimated at £600,000,000, and by the recent additions it may probably be now taken at nearly £800,000,000, so large have been the receipts, principally from California and Australia.

Gold has been employed from the earliest ages as a favorite material for objects of personal and household decoration; thus we read of ear-rings and bracelets of gold, and that the Ark of the Hebrews was covered with gold as also the staves and the altar; various carved works of the temple of Jerusalem and Solomon's throne were of ivory, overlaid with pure gold, and his drinking-vessels were of this metal.

Greek and Roman histories abound in references to ornaments for the person, and articles of use made of the precious metals.

A large quantity of gold is used for gilding, either by being dissolved in mercury, and applied to the object from which the mercury is afterwards separated by heat, the quicksilver rising in vapour, the gold being left as a film on the article; or by boiling the articles to be gilded in a gold solution, to which bicarbonate of soda has been added; or on the plan which has been of late years most frequently practised, by galvanic deposit.

Gold is unchangeable in the air, and does not rust like iron; it is very malleable, and may be beaten into thin leaves of a thickness not greater than the $\frac{1}{280,000}$th of an inch; a single grain of gold may be beaten into a leaf which will cover 56 square inches, and may be drawn out into a wire 500 feet in length.

The specific gravity of gold is nearly nineteen and a half times that of water; thus, if a cube of water would balance a certain weight, a cube of gold of the same dimensions as the water would balance nineteen and a half times that weight.

Gold requires a very powerful heat to melt it, and when melted remains almost fixed in the fire; however, as it can be made to gild silver placed over it, it is, to a slight extent, vaporizable.

The mode of assaying gold, mixed with other metals, is by taking a given weight of the substance and mixing it with a portion of lead and a known quantity of pure silver in excess. If the gold containing alloy were in the larger proportion, it would shield the alloy from the action of the lead and acid, therefore it is necessary to disperse the particles of gold, which is done by adding a large proportion of pure silver. The whole is then put into a cupel made of bone ashes, and heated in a small furnace; the lead melts and penetrates the little cupel, carrying with it all the alloy contained in the mass, except silver. The metallic substance or compound, which now consists of gold and silver only, is next removed from the cupel, and is rolled, flattened, and treated with nitric acid, which dissolves out all the silver, the gold remaining unaffected, nitric acid by itself not being capable of dissolving gold. The residuum of pure gold is then washed several times and weighed, the difference between the original weight of the substance and the last weight being carefully ascertained, the loss shows the alloy, the last weighing giving the amount of gold.

Gold is soluble in a mixture of hydrochloric (muriatic) and nitric (aquafortis) acids, which mixture of the two acids is known

as aqua regia; the brown liquor formed by dissolving gold in the mixture is termed solution of gold.

Gold has a powerful affinity for mercury or quicksilver, and readily unites with that metal; if the gold be in the state of a fine powder or of scales, an excess of quicksilver readily absorbs it, forming an amalgam.

When dissolved, gold may be tested in several ways:—

1. By adding to the mixture a solution of green vitriol (sulphate of iron), which precipitates the gold in the form of a brown powder.

2. By the addition of a solution of chloride of tin (muriate of tin) a purple or reddish brown precipitate is obtained, known as the purple of cassius.

Gold is always estimated in value in relation to the standard; every pound or ounce of gold being theoretically divided into twenty-four parts or carats. The gold coins issued from the English mint being composed of twenty-two parts of gold and two parts of copper, are therefore said to be twenty-two carats fine. The French coinage standard is not so high, being eighteen parts gold and two of alloy.

If an article or coin contain twenty-three parts gold and one of some other metal, it would be termed twenty-three carats fine; if eighteen parts gold and six parts of another metal it would be termed eighteen carats fine. Pure or fine gold would be twenty-four carats fine, and contain no alloy.

Gold is purchased by the Bank of England at the rate of £3 17s. 9d. per ounce of twenty-two carats fine.

Gold has always been extensively employed as a medium of exchange; in the earlier times by weight, facility of use being at a later period increased by stamping the head of a God in the first instance, and afterwards of the sovereign or chief, and defining the value of each coin, which thus carried a certificate of its worth impressed upon itself.

Gold Standards and Marks.

The English law requires every article made of gold, not having a precious stone in it, to be hall-marked.

Snuff-boxes, medals, gold rings, and watch-cases are generally marked; rings and coins are made of the twenty-two carats standard; the other articles above-mentioned generally of eighteen carats fine; but it is also allowed to make them so low as fifteen, twelve, and even nine carats.

The marks for Gold are—

1st. The **Manufacturers' Marks**: the initials of his Christian and Surname.

2nd. The **Standard Marks**:—

For England . .	A Crown and 22
	A Crown and 18
	15, and the Decimal Marks .625
	12, and the Decimal Marks .5
	9, and the Decimal Marks .375

3rd. The **Hall Marks**:—

For London . .	A Leopard's Head
„ Birmingham.	An Anchor
„ Sheffield . .	A Crown
„ Chester . .	Three Wheat Sheaves.
„ York . . .	The City Arms
„ Newcastle .	Three Castles or Towers.
„ Exeter . .	A Castle
„ Glasgow . .	The City Arms
„ Dublin . .	Hibernia.

4th. A variable letter to denote the Year.

5th. The head of the Sovereign to denote the Duty.

These marks are frequently forged, particularly by foreign manufacturers, giving fictitious representation of the quality of the article.

CAPTAIN COOK.

CHAPTER XIV.

NEW ZEALAND—THE INTERIOR.

"Within a long recess there lies a bay:
An island shades it from the rolling sea,
And forms a port secure for ships to ride:
Broke by the jutting land on either side
In double streams the briny waters glide,
Between two rows of rocks; a sylvan scene
Appears above, and groves for ever green."

ENEID.

THE starry veil of night had scarcely been lifted from silent city of Sydney by the pale-faced dawn, than the sound upheaving anchor and the rattle of the rigging, as the ropes

Drawn & Engraved by J. Rapkin

through the blocks, warned us that we were about to depart from our temporary home. Dropping down the harbour by the influence of the sluggish tide, rather than by any strength in the soft-breathing wind, we hove to in Watson's Bay to undergo the customary police examination, a process to which all ships leaving the colony were subjected, to prevent the clandestine departure of convicts. Summoned upon deck, passengers and crew answered to their names, as the list returned to the Customs authorities by the captain was called over by the police superintendent. One man who had shipped as a sailor, on presenting himself, stated that although he was a convict his term had expired; but on shewing his ticket, it was observed that the name given to the captain on his engagement did not correspond with the name on his pass, an event which he had anticipated and prepared for: to receive an advance of wages for the voyage, and then be detained being the object of his trick.

The superintendent could not permit him to sail in the ship without rectification of this irregularity, and as the amount of his advance was too unimportant to justify any detention of the vessel, he was conveyed ashore by the police, to play off further clever dodges on the unsuspecting.

Eight days' sailing on waters justly termed Pacific, brought us, at early morning, within sight of the Three Kings' Islands, lying off the north point of New Zealand; and running down the coast past Doubtless Bay and Wangaroa Harbour, at dusk we anchored in the Bay of Islands, a good cable's length from Kororareka beach.

From the many whaling ships resorting thither, this place had gradually assumed the importance of a seaport, until it numbered two hundred houses, among which grog-shops and marine store depôts abounded; the boats continually passing between the ships and the shore, and canoes laden with agricultural produce giving animation to the land-locked bay, upon whose tranquil surface reposed numerous picturesque small islands.

Bidding farewell to our good ship for a season, we started on an expedition into the interior. A walk of several hours' duration through an open broken country, with many indications of volcanic origin, brought us to the Waimate, where our countrymen had formed a little English village, farms rich in cattle and sheep, gardens abounding in English fruits and flowers, substantial houses, and a church—the result and out-crop of many years' residence of English missionaries.

While resting in this valley of peace, refreshing to the eye and suggestive of home, many tales were related of the dangers and odd incidents which had occurred at the early period of the settlement. The following one particularly amused us:—we were told that a ship captain, desiring to consult the representative of the government, was informed that he would meet with that functionary at the new house which was building yonder. On reaching the spot indicated, he accosted two workmen, as he supposed, and enquired for the official of whom he was in search; great was his amazement on discovering that in the persons of the two besmocked bricklayers he beheld the types of government and religion, for one of the august workmen was the British Resident and the other the principal missionary, engaged in the useful though undignified occupation of building a chimney. We laughed as we imagined the British Premier assisting the Archbishop of Canterbury to fix a chimney-pot or dig a well.

After a sound slumber, we rose at daybreak, and prosecuted our journey to the head of the Waihou branch of the Hokianga, near which spot resided a French gentleman, the Baron de Thierry, who had created considerable excitement in the infancy of the colony—and upon this New Zealand lion we made a morning call.

Prefacing the visit by a note forwarded half an hour before our approach, at the expiration of that time we ascended the hill upon whose summit the Baron resided.

Half-way up we were met by the Baron, who courteously received us with a graceful salute of welcome to Mount Isabel, and conducted us to his hut or log-house, built of rough slabs.

The interior of the hut had with great ingenuity been pasted all over with old newspapers, and the surface whitened with lime, procured by burning shells; the white wall had then been divided throughout by dark lines into squares resembling granite blocks, and these squares had been liberally and tastefully sprinkled with spots of various dyes obtained from different native woods, and this decoration had a peculiar and novel effect, not at all unpleasing.

A few benches and a trestled table formed the principal furniture in the chief reception room, the cause of which sparse upholstery was accounted for by the enthusiastic Baron on the ground that he had determined to have nothing in his establishment but articles constructed of native materials, and hitherto he had been unable to complete the necessary arrangements for the manufacture of furniture from the woods of the country.

The hospitable Baron pressed us to remain to dinner; but reference to the state of the tide and some consideration for his larder caused us to decline the invitation; but we could not, however, resist his urgent request to partake of luncheon, which was served with many apologies for the absence of bread and biscuit, neither of which, at that moment, the establishment happened to possess; in default thereof we were presented with abundance of excellent peach jam and boiled potatoes, nor lacked we the accompaniment of good port wine.

While the potatoes were being cooked, we were favored with the Baron's plans and schemes for the future government of the country. He commenced by reading a decree published in the Sydney newspapers, the preamble of which began thus, in true royal style:—"I, Charles, Baron de Thierry, King of Nukuhiva, Sovereign Chief of Hokianga, &c." The principal points of that decree related to the distribution of each and every sum of

£100,000 proposed to be received from emigrant settlers at a fixed price per acre for land; part was to be expended in the making of roads and construction of bridges, in the building of hospitals and endowment of churches and schools, a portion being reserved as payment for the Baron's sovereign rights.

Regarding the origin of his claim, our host stated that about the year 1825 he had advanced a large sum of money for the purchase of land in New Zealand, and his agent had forwarded him a document purporting to be the cession of territory and sovereignty by the Hokianga Chiefs, and upon this he based his rights; which, however, the Chiefs stoutly denied and disputed, asserting that the person in question had merely inquired, amongst other matters, to whom this and that land belonged; that the native proprietors never knew they were parting with their property, and never purposed doing so.

Time rolled on, and the adventurous Baron, who had been compelled to retire from Nukuhiva, one of the Marquesas Islands, where he had started kingship, proceeded to Sydney, and there announced his intention of visiting New Zealand to take possession of his land and assume the sovereign chieftaincy.

Assembling some sixty followers, the Baron sailed to Hokianga, hoisting his own peculiar flag, and adopting a special official seal.

Rumour of his intended visit reached the place long before his arrival, and caused intense agitation.

As in a small hired vessel the Baron and his suite ascended the river, with colors flying, and firing a salute to himself from the ship's cannonades, the Chiefs hastily assembled and hoisted the New Zealand flag and the British ensign, firmly determined to oppose his landing. The British flag we know, the French flag we know, and the American flag we know, said they, but this is a strange one, and we will not respect it, nor shall its owner put foot on our land.

The Baron, however, having re-purchased a piece of ground from an European—not that he recognised the party's title, for the Baron claimed the land as being within his territory, but

more to show the liberal principles which actuated him—the natives justly remarked that they should not object to his settling thereon, the English holder of that portion of land having purchased it fairly from them had a perfect right to either sell it to another, or to keep it, or to give it away; but if he, the Baron, landed there, he must not trespass beyond the boundaries of such property. Upon this spot the eccentric Baron fixed his establishment, and from this "Mount Isabel," as he named it, his decrees were dated.

Supplies falling short, his followers decamped one after another; and at the period of our visit the Baron was left alone in his glory.

Bidding adieu to the hospitable Baron, three hours paddling in a small canoe, down the heavily timbered Hokianga River, brought us to the beautiful stream of the Wai-ma (the clear, bright, or pure water), running through a valley several miles in length, with a soil of deep, rich, black loam; and wandering through this pleasant district, studded with kumara, maize, and potato plantations, and patches of wheat, at the end of two hours' walk we arrived at the village belonging to the noble-minded, high-spirited chief, Tawhai.

The village, which stood at the foot of a range of thickly timbered mountains, whose summits variously terminated in picturesque cones, craggy peaks, and table land, had recently been rebuilt, under the direction of the chief, in two long lines of substantial, well-erected, bulrush huts, many of them having good doors and window-frames. Tawhai had been told, he said, that in Europe the houses were built in rows, close together, and not stragglingly, with the entrances in all directions, as was customary in the native settlements; and after shewing us over the whole, and pointing out the hinges, locks and chimneys, and internal fittings, such as boxes, looking-glasses, and other conveniences, he triumphantly appealed to us whether his was not like a white-man's town. In the year of our visit he had in-

structed his people to plant larger quantities of seed, that they might have abundance to live well upon, and feed their pigs and poultry well, and to exchange for English blankets, spades, saws, articles of dress, and furniture; and he estimated the stores of kumaras at four thousand baskets (about one hundred tons), and the crops of potatoes and maize were in proportion.

At sundown a spade was struck with a stone to summon those of the tribe who were near, to evening service, and after the singing of a hymn, a chapter in the New Testament was read, followed by one or two extempore prayers, in which special mention was made of the good fathers on the other side of the great sea, who had sent books and instructors; the ovens were then opened and the evening meal despatched, after which a long chat over their pipes ensued, the prominent topics being the probable arrival of ships and the prospect of selling their timber and produce.

Gradually the numbers became fewer, until, left almost alone with the chief, we rolled ourselves in our blankets and fell asleep.

Being desirous of obtaining specimens of those remarkable birds, the Kiwis (Apteryx Australis), inhabiting the mountains at the source of the Waima, we arranged with Tawhai for the purchase of the pair, male and female, which are now in the British Museum. Being noble birds, the price demanded was one English sovereign in gold for each specimen, as chief's royalty, and remuneration of one dollar for the man ordered to catch them. Some weeks afterwards we were aroused while at dinner by a loud shout, "The noble birds for the English gentleman—the noble birds for the English gentleman;" and presently Tawhai appeared, and as he entered the room tumbled out from his blanket the two living birds, exclaiming, "There, see, the Kiwis." He intimated that the price would thenceforward be higher, he having tapued the Kiwis in that range of mountains to prevent bloodshed. It appeared that one of these noble birds

had been destroyed and eaten by a slave, and a subordinate heathen chief of the district had thereupon so beaten the man that he barely survived; Tawhai therefore, to exalt the "game" character of the birds, had tapued them, so that no one in future would dare to kill a Kiwi without his authority; this tapu he had effected by cutting a few hairs from his head, blowing them towards the mountains and pronouncing the words "Be tapu."

THE KIWI—APTERYX AUSTRALIS.

The Kiwi is not larger than a full-grown fowl, and has only a rudimentary wing, so covered with the body feathers as to be quite concealed; the terminating slender claw may, however, be discerned on examination.

The bill is long and slightly curved, having the nostrils at the extremity; its feathers, the sides of which are uniform in structure, do not exceed four and a-half inches in length, and are much prized as material for mantles or cloaks by the chiefs.

The Kiwi is a nocturnal bird, using its long bill in search of worms, upon which it principally feeds; it kicks with great power, and burrows at the root of the rata, at the base of which tree is also found the extraordinary Sphæria Robertsia, a species of vegetating caterpillar. Retaining the form of the caterpillar, the fungus pervades the whole body, and shoots up a small stem above the surface of the ground, the body of the caterpillar being below the earth in an erect position.

Kiwis are caught by a cunning imitator of their cry, who, when they approach, dazzles and frightens them with a light previously concealed, and, throwing his blanket over them, thus secures the birds.

Passing over a range of hills, we entered the equally fertile valley of Omanaia, though of somewhat less extent than the Waima; the Chief received us with cordiality, but being tapu, the only salute allowed was a kindly word and nod of the head; it would have been a high offence to have touched the person of the Chief, or stepped over the board which separated the tapued from the other portion of the fore-court of his hut.

Our way now lay through low swamps and over gently rising ground, terminating in the village and plantations of Pakanai. Being the period of kumara harvest, the place and people engaged in digging up the food were tapu, according to native custom; but desiring to save time, as evening was drawing near, we were injudicious enough to clandestinely venture through the fields of Indian corn, and, screened by the foliage, fortunately escaped observation, which otherwise might have led to the infliction of a fine, if no worse loss.

At night we reposed on the sea-beach, encamping at a favorite fishing spot, making a fire with such waifs and strays as were procurable, and for shelter scooping holes in the sand, lying in which, when encased in blankets, the traveller's mummy-like body, below the level of the beach, is protected from the driving wind.

In the summer season the amusement of cod fishing in the deep sea is carried on with much spirit, parties from the interior bringing their canoes round to the sea, and remaining for some period on the coast.

Selecting a sheltered nook near some projecting ledge of rocks, and decorating their canoes with feathers and red dye, they launch them at the first ebb of the tide at any favorable point, where the surf breaks but little; cautiously approaching the rollers, a rest occurs until an unbroken wave is observed, when a shout

rends the air, and by a vigorous plying of the paddles, the frail barks ride over the crest of the shore swell on to the smooth ocean beyond.

Leaving the coast line after some delay in fording a stream, the tide being high, a long day's journey brought us at dusk to the entrance of a small wood skirting the fertile settlement of Kaihu. Our course had been in the morning through a dense forest, the intense silence broken only by the rustling and snapping of the twigs and branches as they were pushed aside when crossing the foot-track which constituted the road, and enlivened by the cooing of the wood pigeons, and the flutterings of the little fan-tailed fly-catchers (piwakawaka), hovering and twitting about our path, expanding and closing their beautiful variegated tails, with lightning velocity. Later in the day we traversed extensive chalk downs, meeting half-way a party of armed natives whom we suddenly came upon, resting for refreshment by a small watercourse in a hollow, on their journey to convey home the bones of a chief, buried near the scene of a battle which had been fought many years before.

Slow and still slower did our pace become as the shades of evening prevailed, and night at length set in before we had cleared the wood, our progress at last depending upon the natives tracing the path by groping with their feet, while hand in hand we followed, our only aid being the flickering light of innumerable glowworms,

> "Whose gems, through the dark,
> A moving radiance twinkled."

Emerging from the forest we arrived at the Kaihu river, upon whose opposite bank the village was built, and although narrow, the waters were so deep by reason of the rains that it was unsafe to ford the stream on so dark a night; we were therefore directed by the friendly natives, who had been attracted by our call, to occupy an empty hut near to where we stood, and desired to assist ourselves from the food-store close at hand.

Rising at dawn we forded the river, and were very hospitably received by the chief, Parore, whom we found playing at draughts with some of his young men; a piece of bark constituted the board, the squares being marked with charcoal and chalk, while slices of potato and transverse sections of the pith of the Indian corn cob formed the men.

The chief showed us a stack of beautiful wheat which he had grown experimentally, and sadly lamented the want of means to grind it; the rats are consuming it all said he, and my heart is dark for a mill.

So anxious was Parore to secure intercourse with Europeans that he had agreed to dispose of a portion of his rich valley to an English gentleman; and as a curiosity the following authentic list of the articles which were to have been paid in barter for the land is inserted.

Goods to be paid to Parore for the land of which the boundaries are specified in the deed:—

44 Shirts
50 Pairs of trowsers
50 Gown pieces
100 Blankets
2 Casks tobacco
100 Pairs of braces
30 Coats
2 Women's cloaks
50 Spades
1 Bonnet
5 Hats
1 Hair trunk
6 White shirts
1 Pair black trowsers
10 Muskets
10 Fowling pieces
5 Double-barrelled guns
1 Breaking-down saw, 8 feet
1 Breaking-down saw, 7 feet
2 Deal saws 6 feet
2 Cross-cut saws
1 Box of nails
1 Chest of carpenter's tools
5 Bags of shot, No. 2
5 Casks of powder
1 Horse
2 Boxes of soap
10 Iron pots
5 Papers of fish-hooks
5 Dozen clasp knives
5 Dozen scizzors
5 Dozen razors
2 Shaving boxes with glasses
20 Felling axes
10 Adzes
60 Hatchets
1 Saddle and bridle
3 Bags of sugar
1 Watch-guard and seal
50 Sovereigns in gold

The vessel conveying the purchasers was wrecked going into the port, and nearly all on board drowned, the sale therefore was not completed, but the curious agreement serves as an evidence of native capacity to make a bargain.

A walk of sixteen miles from Kaihu over chalk downs enabled us to reach the Wairoa, and on the road we were much amused with an account of the exploits and pranks of a horse belonging to Parore, which had the free roam of this district. The animal would watch the path from the village to the river, and should a party be small, of two or three natives, or principally women, he would boldly attack them, sometimes with great ferocity, tearing from their backs a basket of Indian corn if one could be found; but if the convoy appeared too numerous, he would approach, neigh, and turning round, gallop off. This equine levying of black mail upon those who ventured away from the village appeared to throw light upon some of the dragon tales of our infancy.

The boat we had expected to obtain at the Wharau on the banks of the Wairoa, having been despatched on a voyage down the river could not serve us; learning however that a party of natives was encamped seven miles below, bound on an excursion to one of their plantations near the point where the Wairoa debouches into the sea, we hired the only conveyance available, an old canoe, and after a boisterous drizzling journey in our crazy bark arrived long after dark at the spot where Tirarau and a detachment of his people were asleep under heaven's starry canopy, sheltered from the strong wind by fern fences hastily run up for the night. The yelping of a score of mongrel dogs on our approach, creating sufficient din to have awakened the seven sleepers, aroused the chief, to whom we made known our wants, and engaged to be conveyed across the mouth of the estuary and up the opposite river.

The Kaipara district consists of four rivers, the Wai-roa (Long-water) running northward, in its windings not less than a hundred

miles in length; the short streams of the Oruawhara and the Otamatea, and the Kaipara river running southward about twenty-five miles in length.

These all join before reaching the sea, and empty themselves by one mouth seven miles across, and as the spit formed at the meeting of the northern and southern rivers extends nearly to the sea, and the tide is very strong, a heavy surf rolls on to the tongue of sand, and the crossing of this estuary is at times very dangerous. It is advisable to take the last of the ebb on leaving either side, thus avoiding the spit by the drift of the tide seaward for the first part of the journey, and when half-way over the flood-tide coming in not only prevents too great a drift towards the ocean (and there are several ugly sands outside the heads, and a heavy swell generally rolling in) but carries the boat or canoe up whichever river it is proposed to ascend.

The Wai-roa runs through an extensive tract of heavily timbered land, the most important being the Kauri pine, remarkable for its lightness, elasticity, and tenacity, bearing a much heavier strain without breaking than timber of the same species from every other country. Its excellence for masts is well known in the English dockyards, and for interior house-building purposes it cannot be surpassed; its easy working character, and the absence of knots causing it to be highly prized; broad slabs thirty, forty, and fifty feet in length, almost entirely free from knots, being procurable. In the interval, between the planting of the seed potatoes and harvest, the fellers of timber repair to the forests, and choosing a clump of suitable, well-grown trees, each man proceeds to hew down his selected trunk.

The felling is commenced by a huge incision on one side of the base of the tree, met by a smaller one on the opposite side, gradually the thick stem is nearly severed, and then by a few additional hearty strokes, accompanied with loud shouts, the tottering mass falls with a tremendous crash; some dexterity and skill are required that the tree may fall in a proper direction with-

out injury to itself or the neighbouring timber. Before the introduction of European implements the mode of getting trees down for the construction of canoes was by burning them through at the base, the rest of the operation being slowly accomplished by means of stone axes. The fallen trunks are next lined, so as to cut out the largest quantity of house-timber, or proportionate spars, and it is not a rare occurrence to meet with beautiful straight masts, seventy, eighty, ninety, and even one hundred feet in length, tapering gently from twenty-six inches square at the butt to fifteen inches square at the head, of sound good timber, free from knots for fifty feet, and with comparatively few on the upper part, after all the branches have been lopped off. The squaring is effected by the axe, the adze being used for finishing, and it is generally observed that the natives finish their work with more care than Europeans, probably owing to the spirit of emulation which exists among the young men of the same tribe as to who should be considered the best workman.

By the time the pieces are dressed, agriculture claims the attention of the timber-squarers, and the logs are not dragged out until winter, at which period of the year the labour is more easy, and food plentiful.

Cutting down such small trees as may interfere with the launching of the squared pieces of timber into the nearest creek, they are placed crosswise, one or two yards apart, to act as skids, and are well plastered with mud and made as slippery as possible; hence the winter season, on account of the wet, is chosen for dragging out timber from the forest.

A pair of large blocks and a long strong rope being procured, one end is attached by iron dogs and a chain to the piece of timber to be drawn out, and the block at the other end being fastened to a standing tree, men, women, and children lend a willing hand to the work.

The proprietor, or some friendly substitute gifted with stronger lungs, paces up and down on the spar, brandishing his spear or

musket, and uttering whatever bombastic rant he may imagine will cause laughter, ending with an exhortation to pull strong; and then all straining to the utmost, and raising a peculiar continuous yell, resounding through the forest, the spar glides on over the slimy cross pieces, and thus one after another being launched, they all at last reach the water, and being rafted ten or more together, are floated down to the place of shipment.

TIMBER-HAULING.

The owner of each piece of timber being expected to provide a pig as a feast for helping friends, the work goes on pleasantly, and timber hauling is regarded as a pastime rather than a severe labour.

Hoping eventually to arrive at our destination, as the best course for our comfort we resigned ourselves to the friendly care and easy mode of travelling adopted by our native friends; any attempt to hasten the pace would have been utterly useless and irritating.

One day the chief's boat and the canoes were hauled up and no further progress made, because a cockle-bed was arrived at, and

all hands were employed collecting, cooking, and eating cockles, until thoroughly satiated, a task not soon accomplished; a second day was lost after a few miles journey, on account of our meeting with a friendly tribe, to chat, eat, and smoke with whom were necessary duties of polite life; a third passed in hunting wild pigs and shooting pigeons, the locality being favourable for sport; a fourth in borrowing and equipping an extra boat; a fifth was wasted from our escort being too late astir for the morning tide, and at the time of evening tide we could not have crossed with safety.

At daybreak we struck our encampment of sails on the beach, and with the early gentle sea breeze stood over to the opposite shore, where we were received with loud shouts and a war dance of welcome. The chief of this district, Mate, was tapu in consequence of the death of some relatives; as a special mark of respect however we were invited into the hut, and after a short delay a procession of thirty slaves introduced an ample supply of provisions consisting of fish, pork, fresh and dried eels, potatoes, and kumaras, served up in neat square baskets of plaited flax (phormium tenax). Our reception feast finished, the news on both sides were greedily caught up and devoured; our attendants being closely questioned as to the prices Europeans were paying for potatoes and timber at the port whence we had started; also the rumoured proceedings of the New Zealand Company, whose first ship had then recently arrived. A little merriment was caused by one of the company rising to hang his cap upon a wooden peg in the side of the hut. Loud cries of "Stop! stop!" arrested the act; it appeared that had he persisted, the article would have been confiscated, the place being tapu. This timely intervention spared him the loss of his head-gear, and a walk of fifty miles without a head-covering was by no means a pleasant thought.

Inquiries were made whether the Bay of Islands Chiefs had not offered to sell Kaipara to the New Zealand Company; and Mate

and Tirarau, the two principal Kaipara chiefs, agreed in the statement, that it was true that the Bay natives had conquered their fathers when the speakers were children, but it arose solely, they contended, from the circumstance that the conquerors possessed guns, and the conquered only native weapons; now, said they both, we have guns also, and if they come we will fight for the land again. Let them come.

Delayed by these long talks, the smoking of innumerable pipes, and the satisfactory decision that nothing could be gained by starting before the flood tide, which would not take place for some hours, we did not arrive at the head of the Kaipara until night had well set in. Near this spot resided some English sawyers, whose slumbers we disturbed; a large fire was soon made up from the smouldering embers, and a bowl of strong tea brewed, of which all, our hosts included, heartily partook.

These pioneers of civilization had exhausted their stores of flour, biscuits, tea and sugar, and all the luxuries of life; and were then living upon the simple fare of potatoes, pork being added on the occasion of a successful wild-pig hunt; thus they were waiting in cheerful hope for the return of their companion, who had sailed to a neighbouring colony for the purpose of selling their stock of sawn pine, to arrange about a vessel for its conveyance, and to procure supplies.

Our conversation over the cheerful blaze of the wood fire was prolonged far into the night by inquiries of home and the changes that were taking place in consequence of the introduction of railways and steam vessels.

That we had walked the same streets in the quaint towns of Old England, had played as boys around the same venerable ruins, and, as it happened, could inform our hosts of the deaths, marriages, and altered circumstances of workmen and masters, united for the moment our greatly differing minds, even as the strains of far-off melodious music soothe and mellow into one the many hearts of the multitudinous listeners.

Breakfasting with our friends on such provender as our joint supplies afforded, we started forward again, our path lying through a small forest, and then over a tract of low scrub of very fatiguing travelling, our chief amusement during the weary tramp being the theological discussion of a native who had joined our party, and considered himself quite "up in the Scriptures." He might have been cramming for an examination.

His voluble tongue rolled out chapter after chapter, upon each of which he volunteered a long commentary, followed by inquisitive interrogatories, whether he was not quite right, and did not know a great deal. The history of Jonah, as partaking of the marvellous, and therefore striking a sympathetic chord in the native mind, seemed to have a special interest for him.

After a long tedious scramble through the fern and tall grass which interlaced in every possible direction, entangling the feet and making progress difficult, at nightfall the roasted portions of a wild pig, which had been run down by a dog belonging to one of our men, afforded a welcome repast; and making up a good fire we encamped for the night in a small sheltered dell. Breakfasting upon our pig and the "remainder biscuit," we obtained a boat from some friendly countrymen who were felling timber on the opposite bank of the river, and rowed down to the newly-formed capital of Auckland.

Few situations are more interesting and instructive to the traveller, than to find himself suddenly emerging from the solitude of the forest into the midst of a swarm of human bees settling upon a new hive;—founding the future capital of an empire not being an every-day occurrence.

The sagacious eye of Captain Cook had perceived that, should an European settlement be formed in New Zealand, the neighbourhood of the Thames would be a desirable spot, and although many other places were partially colonized by settlers before the Government of Great Britain took possession of the country, the site of Auckland was selected by Captain Hobson as the most

suitable for the capital, and its gradual advance far beyond the older settled districts, proves the judicious choice of its founder, and the remarkable pre-science of Cook.

Auckland has a winning aspect from the waters of the Wai-te-mata, particularly when the tide is high, for at the period of low water a broad fringe of mud imparts a sombre dinginess unknown to the more favored magnificent city of Sydney, the belle of the South Sea. Auckland, however, has a more refreshing greenness, is more quiet and homely, and from its ever pleasant sea breeze is an altogether loveable place.

With questionable taste the appropriate but inelegant names of Mechanics, Official, and Commercial Bays were bestowed upon the three curved sections into which the shore is naturally indented; nor were the spaces marked for future streets honored with much more classical designations.

On the low lying shingly shore at the foot of the terrace table land on which Auckland stands, trending away upward towards an extinct volcano in the rear of the town, the walk to which is rendered difficult by the abundant scoria scattered over the surface of the soil, were the temporary houses of the natives who had brought from the villages on the Thames, fire-wood, potatoes, pigs, poultry, and maize, thus early and eagerly gratifying their trading propensities, and profiting largely by this suddenly opened market.

Canoes hauled up on the beach, their sails turned over poles for shelter, smoking earth ovens, hungry curs, half-naked children, squalling pigs and piles of produce, the gipsy like and independent aspect and manners of the erect full tatooed men, with the continual arrivals and departures of some of the "Musquito" fleet, each canoe urged on by numerous vigorous rowers, paddling to a chant not devoid of melody, gave a peculiar life and interest to the scene.

Ascending to the plateau, our enterprising countrymen were to be seen with all the earnestness and decision of the national

character busily employed erecting fences, staking out ground, building rush huts and more substantial wattle and dab and weather-boarded houses. A long hut with curious narrow anomalous enlargements and elongations of no particular style of architecture formed an impromptu and expansible hotel, an additional bit being added as new sleeping occupants required accommodation and labor could be obtained, and herein "new chums" slept soundly, rolled in blankets, on boxes or trestles, in the glorious possession of health and hope; now and then when the intruding rain required the midnight use of an umbrella, their sleepy patience venting itself in a few expressive monosyllables.

> The toiling Tyrians on each other call
> To ply their labor: some extend the wall;
> Some build the citadel; the brawny throng,
> Or dig or push unwieldy stones along.
> Some for their dwelling choose a spot of ground
> Which, first designed, with ditches they surround;
> Some laws ordain; and some attend the choice
> Of holy senates and elect by voice.
> Such is their toil and such their busy pains.

A small company of English soldiers accompanied the Governor, and on the occasion of their first inspection and review, great was the astonishment of the native spectators, and when the thrown out skirmishers lay down, the native lookers on, not understanding the movement, and believing the men to be resting, exclaimed, Oh! see, they are tired. How regular they move, at a word, said others, as the Red Jackets with their accustomed precision, wheeled right and left, marched slow, quick, and double quick.

The "charge" was regarded as the crowning achievement, and although considered unavailable for the bush, was at once admitted to be an irresistible movement in the open country.

The indefatigable ubiquitous Governor, accessible to all, watched with a father's interest the rising of his newly founded capital; alas, good man, worn out with anxious cares for the infant colony, his health broke down, and he was withdrawn from all earthly sorrows and joys.

Not soon will the natives or his countrymen forget the kindly, genial spirit of the First Governor, nor often is a dead official mourned with half the true sorrow that followed Captain Hobson to the grave, over which might be appropriately inscribed

"Reader, if you seek a monument, look around."

PAPAHIA SIGNING THE TREATY.

CHAPTER XV.

NEW ZEALAND—THE TREATY.

I am sent by the Queen of England whose words are true, and with the terms of our agreement this day she will make all future Governors comply.

CAPTAIN HOBSON.

The English colony of New Zealand, of which Auckland is the capital, was founded by Captain Hobson in pursuance of instructions from the English Government; to remedy an inconvenient state of society which had arisen in those distant islands; and to the proper understanding of the necessity of this course a few historical notes may be desirable.

New Zealand was discovered by the Dutch Navigator, Tasman,

but nearly all the evidence we have of his visit is in the name he gave to the country, and which it still retains. To Captain Cook belongs the honor of ascertaining the extent of the islands, the character of the inhabitants and productions; and his visits are recollected with gratitude by all. It is extremely pleasing to hear the old men talk of Peni Kuki (Captain Cook) whom their fathers knew, and who came in the thing they imagined at first to be a gigantic bird flying on the sea, the sails being thought to be its suitably vast wings.

To Captain Cook they attribute the introduction of pigs, potatoes, dogs, the cabbage, and the knowledge of the use of iron instruments; and throughout the land his name is mentioned with affectionate remembrance as its greatest benefactor, as one who was ever kind to the natives, and took no advantage of their ignorance and helplessness against his firearms.

In after years, whaling vessels frequenting the Pacific began to call at New Zealand in order to obtain fresh water and replenish their provisions; pigs, potatoes, &c. being abundant and cheap; and the well sheltered harbor of the Bay of Islands being very easy of access, became the favorite place of resort, until at last two hundred vessels have been known to visit the port in one year.

As the islands became better known, the merchants of New South Wales established shore whaling stations in the neighbourhood of Cook's Straits, and in those bays on the East coast to which whales were observed to resort.

Many free emigrants from the neighbouring colonies settled in various parts of the islands, runaway seamen and a few escaped convicts also added to the European population; and subsequently the New Zealand Company proposed to establish a settlement in the country under its own peculiar regulations.

Under these circumstances, no supreme controlling power residing in any competent authority, the British Government resolved in 1839 upon forming the islands into a crown colony,

but as the independency of the islands had been acknowledged some years before, and the sovereignty of the chiefs proclaimed; it became necessary to secure the abrogation, cancelling, or cession of their sovereign rights;—to effect which arrangement, Captain Hobson of the Royal Navy, who had previously visited the islands, was instructed to assemble the chiefs and obtain their signatures to a treaty, embracing this point amongst other matters.

This agreement between the British Government and the New Zealanders, known as the Waitangi Treaty, had been first discussed at the Bay of Islands, the chiefs of which district were much averse to its reception, but the Hokianga chiefs who arrived late on the day of meeting having expressed themselves very decidedly in its favor, their persuasion induced a change in the minds of the Bay chiefs, and after some hesitation they concurred.

In his despatch to the British Government reporting the acceptance of the treaty, the governor stated, "Twenty or thirty chiefs addressed the meeting, five or six of whom opposed me with great violence, and at one period with such effect and so cleverly that I began to apprehend an unfavorable impression would be produced. At this crisis, the Hokianga chiefs under Nene and Patuoni made their appearance, and nothing could have been more seasonable. At the first pause Nene came forward and spoke with a degree of natural eloquence that surprised all the Europeans, and evidently turned aside the temporary feeling that had been created."

The next meeting was held at Mangungu, the principal Wesleyan Mission station on the Hokianga river, and to it were invited the very important Ngapuhi tribes inhabiting the western districts of the northern parts of the island.

On his way across the island the governor halted at the Waimate where several farms had been established by the Church Missionaries, and at these the natives first became

acquainted with systematic agricultural operations on a large scale, which they have since so successfully imitated.

Leaving this English-looking village of farm yards, gardens, substantial houses and stables, cow-sheds, sheep-folds, and piggeries, a journey of fifteen miles through a broken country of scoria, fern, scrub, and timber land brought the party to the banks of the Waihou, a tributary stream of the Hokianga, where the principal Europeans resident in the neighbourhood were assembled. This unexpected reception by so many of his countrymen who had voluntarily met to countenance, encourage and give éclât to the visit of the Governor, gave occasion for some graceful thanks and observations on his part.

By arrangement he had expected the Mission boat, and that only, whereas he was honored and gratified with the presence of twelve or more well manned boats, gaily decked out with flags of all kinds, union jacks, ensigns, and signals, bidding him, a sailor governor welcome.

The water escort was headed by a boat containing the Governor's suite; next succeeded the large Mission boat with the Governor, flanked on either side by a four oared cutter, and following in order were the remaining boats in single line. In this nook of the world such an aquatic procession was as unique as it was novel, and necessarily the first and last of its kind.

The curiosity of the natives increased as we rowed in to the landing place, numbers wading into the water to draw the Governor's boat up on to the beach, and as he disembarked and shook hands with the chiefs, free criticisms on his appearance and dress passed round. "The Queen has sent such a little man to be a great chief, and his clothes are quite plain."

That day had also witnessed the arrival of many important chiefs with their immediate subordinates and influential men, and as canoe after canoe touched the shore, the numerous short war dances, equivalent to salutes among European nations, kept the appointed place of meeting in constant excitement, friendly

tribe greeting friendly tribe, each trying to outvie the others in hospitality and courtesy.

The morning of the assembly day dawned, solemn, quiet, breathless, and as the sun increased in strength the dewy mists floating over the valleys,

"Sparkled, were exhaled and went to heaven:"

uncurtaining the branching river and revealing its numerous streamlets coursing their winding paths among romantic hills, through richly wooded lands and cultivated grounds, edging small villages and fortified pahs.

At ten o'clock the loud pealing of the Mission Chapel bell announced that the hour of meeting had arrived, and the sound had scarcely died away when the Governor, surrounded by a small group of officials, took his seat in the verandah of the Mission House which crowned the brow of the hill.

His address was to the effect that, in former years the English government had recognized the independence of the country, had acknowledged the flag of New Zealand, and hoped that under the guidance of the British Resident the chiefs would have been enabled to rule the country. Two causes had led to a change in those views. First—The mutual jealousy of the chiefs which opposed the combined action of all or many chiefs, and still more prevented any one chief from becoming possessed of more than very local and feeble authority. Second—The unexpectedly large and increasing influx of Europeans, over whom the chiefs dared not assume authority, and these, sometimes rightly, frequently with much unfairness, complained of the conduct of the natives, who on the other hand were often wronged by the white men; thus evils went unredressed, and the country was daily in danger of a collision between the parties.

The advantages he held out were twofold—Security to their lands, property, and fisheries; and redress in case of wrong from Europeans.

To secure these benefits it was necessary that the native chiefs should cede their sovereignty to the Queen of England that she might be paramount. He remarked that he had assembled them before the Sun in the heavens, and all together, and in the presence of the missionaries, his white countrymen, and all the natives who chose to come, that the matter might be openly talked over and not done in a corner and in the dark; he had not made presents, nor had he privately discussed the subject with individual chiefs in order to persuade them; he would read the treaty, and then they were to talk it over and question him as much as they pleassd.

THE TREATY.

Article the First.—The chiefs of the confederation of the united tribes of New Zealand, and the separate and independent chiefs who have not become members of the confederation, cede to Her Majesty the Queen of England, absolutely, and without reservation, all the rights and powers of sovereignty which the said confederation or independent chiefs respectively exercise or possess, or may be supposed to exercise or to possess, over their respective territories, as the sole sovereigns thereof.

Article the Second.—Her Majesty the Queen of England confirms and guarantees to the chiefs and tribes of New Zealand and to the respective families and individuals thereof, the full, exclusive, and undisturbed possession of their lands and estates, forests, fisheries, and other properties which they may collectively or individually possess, so long as it is their wish and desire to retain the same in their possession. But the chiefs of the united tribes, and the individual chiefs, yield to Her Majesty the exclusive right of pre-emption over such lands as the proprietors thereof may be disposed to alienate, at such prices as may be agreed upon between the respective proprietors and persons appointed by Her Majesty to treat with them in that behalf.

Article the Third.—In consideration thereof, Her Majesty the Queen of England extends to the natives of New Zealand Her royal protection, and imparts to them all the rights and privileges of British subjects. (Signed) W. HOBSON.

Now therefore, we, the chiefs of the confederation of the united tribes of New Zealand, being assembled in congress at Waitangi, and we, the separate and independent chiefs of New Zealand, claiming authority over the tribes and territories which are specified after our respective names, having been made fully to understand the provisions of the foregoing treaty, accept and enter into the same in the full spirit and meaning thereof.

In witness whereof, we have attached our signatures or marks at the places and dates respectively specified.

Done at Waitangi, this 6th day of February, in the year of our Lord 1840.

"This is the word of the Queen," said the Governor.

After a pause the Raumati (The Summer) rose and spoke. "I am an old man, war was once my delight, now my thoughts are for peace. The white men have brought us many evil things, as the stinking waters, guns, and some diseases, these are bad; but they have also brought the potato and the pig, and the flour, and the blanket and medicine; the young and the very old could not eat the fern, it was a lump in the stomach and they died, but now they can have suitable, soft, food. The Missionaries have taught us to read, and told us about Heaven and God, and to sit in peace and not devise perpetual wars, therefore I think we should walk still further in white ways and adopt the Queen's word; the more so when I look around and see that some of the white people who are here are bad men and require ruling, and we native chiefs are afraid to punish them when they do wrong because they threaten that the warships shall come and fire upon us. I counsel that we sign the Treaty and become brothers with

the white people, that there may be one rule for all, one judge superior to all who will render right to Natives and Europeans.

A tall noble wild looking chief, dressed in a large kaitaka or flax mat with variously dyed border worked into an elaborate pattern, his hair stuck full of feathers, next stept forth and directed the attention of the assembled throng to the neighbouring hills. Look, said he, are they not all nearly of the same height, so are the chiefs in our land, one is nearly as great as the others, the differences are small, but now you, the Governor, come and ask to be lifted up above us all, like the mountain of Taniwha; that is not our usage; and I say let us be as we are, and if in your country you prefer one chief to swallow up the greatness of all, be it so, white customs for white men, native customs for New Zealanders. That is my thought.

This is what I have to say, said another, if you English will accept a New Zealander to be your king, then will we make you a head chief over all here. If I were to go in your big ship would they make me a king in England, why then should we make you Governor here.

Rangatira wished to enquire whether if they became politically one and submitted to English law it was to be considered part of the agreement that they were to become Christians, he should not accept the Treaty if that were the case, for he had no wish to become a Christian.

Up started Te Ngaro (The Lost), a short stout built man of great muscular power, his full tatooed decided face peering above the dogskin mat which hung fastened round his throat by a huge button and loop, completely hiding the thick blanket which formed his only other garment. During his speech his abundant energy employed itself in rapid pacings backward and forward, whilst his hands played restlessly with a war weapon.

You have said that there shall be a straight rule between natives and Europeans, now listen to me and judge. On a

portion of my land not far from this place I planted potatoes and kumaras for myself and the children of my tribe—good; and around the plantation I made a fence so that pigs could not get through—good; but some of the white people have great animals with long horns, and one day one of these beasts came and first poked one horn between the stakes and then the other horn, and pushed his head about so that the fence broke, and he got in to the plantation, eating and destroying the food of my people. I raised a great shout, but instead of his going away the Tommy Bull ran after me with his great horns;—I thought, perhaps he will be afraid of a gun, so I loaded and fired, and hit him so well that he died. Then the owner came and demanded and obtained recompense for my having destroyed his animal; now I say that for me to be obliged to pay in such a case is not right, and if such is the custom in your country it is bad. I suffered wrong, and killed the bull when I only intended to drive him away; I could not keep him from the growing food, nor was it the first time he had caused me great loss.

A Waihou chief here corroborated Ngaro's statement, saying that his crop had also been greatly damaged three years in succession by a white man's great oxen, and that when he had remonstrated, the Englishman had treated him with contempt, and when the chief told him he should be obliged to shoot the one which was most malicious and led the way, unless it was restrained, the reply was curtly, "You shoot him, I shoot you."

It was suggested that the fences should be made stronger.

No, no, said Ngaro (and no, no, not upright, resounded on all sides), we keep pigs and make our fences accordingly, if we do not make them strong enough to keep pigs out we must be liable to lose our crops; but the right thing in my mind is, that those who have the big horned animals should prevent their breaking our fences.

In future, said the governor, should one of these animals break

into your ground and damage be done, *you* will have a claim for payment.

Very good, right judgment, said they all.

The Taunui next rose with the air, cunning, grace, and apologetic manner of a courtier, deferentially submitting his remarks.

"We are children in mind though old in years, said he, we fought in our youth and eat fern root, and laboriously our wives and slaves made garments of flax, and by the slow process of burning we hollowed out trees and made canoes which we finished with stone axes; now our young men can square timber, and use saws and planes, and build houses, and write and do the figures almost as well as Englishmen, and the white people supply us with tobacco, spades, blankets, calico, and many other things. They do not give these things to us; they expect our labor, our timber, and our potatoes in exchange, so I strongly suspect that you, the Governor, do not *give* us good words; it is not straight to think so, and yet it may be straight perhaps, but in my heart I think that you receive payment for all your fine and kind words. When we were very savage, like wild beasts, the Queen of England sent the missionaries; they tamed us, and it became safe for sailors and merchants to come to our country. The missionaries professed that they came for our good—perhaps it was that they were paid, how much I do not know for they never told me, I will suppose £200 a year; a long time after came the British Resident, superior to the missionaries, to him probably the Queen of England gave £500 a year.

And now when we are accustomed to European ways, and live nearly as you do, and the British Resident thought he had sufficiently prepared us, now, I say, another person comes, still higher in rank, you come with persuasive words, all for our good you say, but what I wish my countrymen to ponder over is that you do not come here merely of your own will, but I surmise all your words are influenced by the gold money you receive from the Queen, probably £1,000 a year, and when we have listened to

your talk and acquiesced, perchance she may give you some other appointment and you will not then care so much for our good as for the larger money, and will leave us; or when we have been agreed for some time, perchance some new superior governor with new suggestions and rules may come, because he may be better paid;—it is a matter of payment with you all.

This occasioned some merriment, and the Governor good humoredly observed that it was true he was paid, and he thanked Her Majesty for his salary and should not have the slightest objection were it to be increased as his friend Taunui hinted, but, however that might be, it was also true that the agreement made that day would be for ever binding.

The Tawhai a renowned warrior whose name was a terror to his enemies, and who was in himself a host to the side he supported, his person bearing the marks of severe wounds received in fight, spoke with ease, dignity, and spirit, and was listened to with profound attention, amidst subdued hushing "Ko Mohi Tawhai;" Moses, The Teazer, speaks.

"The white people are as sand flies, which when they bite before rain one is tempted to rub off the leg and kill, but no sooner is this done than a fresh swarm alights and replaces the killed insects, if therefore we were to destroy all the Europeans now in our country, a very easy matter, more would come, therefore I incline to say, let us live in peace with those who are here and whom we know, perhaps worse might follow. I fear that what has occurred in neighbouring countries may in time be the case here, in Van Dieman's Land all the natives have been hunted down like wild beasts, in New Holland the English have said, get out of the way you dogs of natives, and have driven them far away from the coasts and the fisheries and taken their land; perhaps in other places of which I know nothing it may have been the same. But the Governor tells us that in those countries no agreements to the contrary were ever made, and that in this matter we are treated differently, and our friends the

Missionaries say that on their words as truth tellers we may believe what the Governor asserts, our lands will not be taken, our rights and customs will remain as they are.

"We all know how difficult it is if an European injures a native to get the wrong righted, and if a native injures an European how large is the demand for satisfaction; and great and many are the threats that if restitution be not speedily rendered the warships from the other side of the great sea will come and destroy our pahs. Moreover, we have lately seen a number of armed Englishmen break open another Englishman's dock and steal therefrom forty logs of timber, and there is no one with authority to say what is the right in such case, no judge to punish; and we are told it is not for us chiefs to judge and interfere; that it is a white man's quarrel; and so great wrong is done, and all is confusion in the land. Native quarrels also arise from little matters, and great agitation and much bloodshed result; from some small pique the high spirit of a chief is wounded, and he sends a message that at an unknown hour he will be revenged, and will cook and eat the offender's head; and for a long period we repose with our guns by our side, restlessly sleeping; others keeping watch lest the enemy should surprise us. If we acquiesce in this writing there will be a friendly neutral chief, greater than all, who will settle these differences and make peace. Considering all these matters, I counsel acquiescence, but not unless one thing more is promised: we have been free—ever free; have always walked straight up, and we will never consent that slaves, bad men, convicts you call them, should ever tread our ground.

Governor: They never shall.

"Remember the words you have said this day, and if you infringe the agreement, recollect you believe in a hell-fire after death for all liars. Further, I advise my countrymen not to sell their land, but to keep it, that our children may have food for ever and ever. We in this district have sold all we can spare, and more than we ought; if we sell more we shall have to live

like dogs that run hither and thither, and exist upon any scraps that may be thrown to them. I have said.

The son of Papahia complained that some of the Missionaries had bought too much of the land; as he figuratively expressed it, from the place where they stood to the end of the island, all round by the sun, and back again; and paid far too little, having bought it when the natives were ignorant of its value, and who, having once parted with it, could not sell it again; and he considered the original proprietors had been defrauded in the price.

It was explained that the district referred to had been tapued to the Church Missionaries, in order to prevent the natives being coaxed into an actual sale of the lands necessary for their support.

The Governor, as this explanation did not seem quite satisfactory to the young chief, assured him that all cases of land sales would be investigated; and where a fair price had not been paid to the natives, the land should be restored, whoever had purchased it, whether Missionaries or other persons.

By a small payment a sort of pre-emption was established, the party tapuing secured that the land should not be sold to any one but himself, but it did not compel a sale even to him.

Nene, with great energy of manner, and in a torrent of fiery oratory, denounced the conduct of a French gentleman who had given him deep and lasting offence in reference to some land. Why does he not appear here, said the chief, in concluding his address, and state his case, and let me tell mine, and you judge between us. No, no, he dares not come; his face would be too red with shame, for he knows he is in the wrong; and the chief's eyes glistened, and his whole soul beamed through his quivering frame as he thundered out his final sentence that the wrong should never be right to him. Never! never! never!

The assembly was silent, awed by the grand natural eloquence which distinguished Nene; his clear statements, powerful, logical arguments, biting sarcasm, and fierce denunciation, awakening the remembrance of old times, when the voice of the renowned

warrior aroused them to battle, in which under his leadership they were ever successful.

The day was fast waning when the Governor replied to the speakers, and observed, in conclusion, that if they were satisfied with his statements he would leave it to them to decide whether to sign or decline the treaty on that occasion, or adjourn the meeting until the next day.

Several influential chiefs suggested that the contract should be completed at once, and in a body they rose as the sun descended below the hills, and attached their marks and signatures to the treaty.

It had been noticed in the morning that Papahia, one of the most powerful of the northern chiefs, his adherents mustering a thousand fighting men, was not present at the meeting, but remained at the hut of a friendly chief whose hospitality he had accepted. The characteristic reply of the proud old man to the messenger sent by the Governor, inviting his attendance was, "I am here, if he wishes to see me let him come."

The dignity of the Governor would have been compromised by any further concession, and the meeting proceeded and terminated.

In the evening, while we were partaking coffee, a young chief was announced with a message that Papahia had a communication to make to the Queen's representative.

The Governor replied that he should be very happy to see him; and soon after, Papahia himself arrived, and was immediately introduced with his sons and the leading men of his tribe.

It is not right in a great chief, said he, to decide important questions in haste; it may be well for young men and small tribes but not for old men and large tribes; it is not for an old man to talk but to think; moreover, I said in my heart, let the Christian natives, the changeable men, the men who have left the customs of their fathers, sign first. I have, however, considered the matter of the Treaty, and now listen,—Behold my sons and the principal

men of my tribe, I have brought them to witness my words and to join with me.

Your words, O Governor from the Queen of England, I accept as true, as the words of one great chief to another. You have said that our lands, our fisheries, all our properties shall be preserved to us, and be ours as they are at this day; the men you have treated so badly in New Holland, and driven from their lands and fisheries, are nearly black like this (rubbing the sleeve of his black coat); now (placing his finger on his cheek) look at our skins and look at your own, there is not much difference in colour, we are nearly as white as yourselves.

You promise not to use the power of your guns and war-ships to do the same to us as to the New Hollanders; if hereafter you break your word—if you do, the God you white men worship punish you as liars. If I understand you plainly, said he, in future it will not be, showing his left hand,—Natives,—then showing his right hand,—White men—but, placing the fingers of either hand between those of the other, all will be one as these,—brothers—and one law for all.

Just so, said the Governor.

Let me touch the writing then; and having made his sign, now, said he, Papahia having touched the paper, let it be sacred, and peace be between us; we are one for ever—ever—ever.

* * * * *

The following day the Governor celebrated the signing of the Treaty by a feast to the assembled tribes.

The ceremony opened with a war-dance on a low shingly beach fringing the south bank of the river, which here traces its pensive course between two chains of lofty hills crowned with noble pines.

On a partially cleared spur of one of these ranges stood the dwelling of the Deputy British Resident, who had endeavoured to heighten its effect and importance by a battery of carronades which bristled on the terrace.

Salutes on festive occasions, fired by an old naval retainer, wakened the oft repeating echoes of the surrounding mountains, and dying away fainter and fainter, the reverberations, roused by the booming of the evening gun at sundown, struck the ear as solemn watchwords of the spirit sentries of the everlasting hills.

On the opposite bank, a neat fence enclosing a large field of bee-hive hillocks, like myriads of molehills (the native mode of cultivation), betokened a kumara and potato plantation; while golden maize in all its glory, and a grove of luxuriant peach trees in full bearing, strongly contrasted with the masses of dark forest which bordered the small settlement, and seemed to frame the picture.

By desire of the principal chiefs, the European spectators embarked in boats and canoes, and rested on their oars or anchored at a short distance from the shore, this position affording the best view of the proceedings.

At a given signal from the leading warriors the whole body of

men began a series of wild and furious cries and shrieks, with hideous contortions and leaps into the air, accompanied with the brandishing and rattling of weapons and the firing of musketry, combining everything a savage imagination could conceive as likely to inspire terror in an enemy.

The surprising exactness with which during nearly half an hour every motion of such numbers was performed, and the peculiar resounding of the earth as so many hundreds descended from their upspring height, left an impression on the mind time cannot obliterate.

This strange performance over, two chiefs undertook the distribution of the provisions, and woe to the unlucky representative of any tribe who sought to obtain more than the assigned portion, a stout blow on the head, or vigorous poke in the back speedily caused him to repent and desist.

The cooking was effected in ovens formed by scraping a hole in the earth about three feet in diameter and twelve inches deep. A wood fire is first made in the excavation, and stones heated by means of the burning wood; when thoroughly hot, the wood is all withdrawn that no smoke may affect the food, and the stones are distributed over the bottom of the hole; upon the stones damped grass or fern is placed, and then potatoes surmounted by the meat; this again is covered with fern upon which water is poured; a few stones are added, and the whole rendered air-tight by a covering of two or three flax mats and a thin layer of earth. As the water poured upon the fern leaves percolates through the mass it is converted into steam by contact with the hot stones, and thus the apparatus may be considered a steam oven.

The viands being ascertained to be properly cooked, the earth and mats are removed, and the clean steamed provisions served up in neatly plaited baskets of fresh flax leaves.

The cooking of twenty-five large pigs and nine or ten tons of potatoes required a goodly number of these ovens, and great was the clamour of the cooks.

While watching the motley group, the author inquired of his old friend the influential chief Patuoni why he had become so interested in favour of Captain Hobson.

He replied, that some years before being on a visit to a related tribe, distant several days' journey from his own people, and the vessel of war which the Governor then commanded lying in the harbour, on the point of sailing to a port near to his own tribe, his young attendants intimated to the captain their desire that the aged and beloved chief might be conveyed in the vessel and thus spared the fatigue of many days' walk. The kind-hearted captain not only acceded to the request, but took the whole party on board; appropriated to Patuoni's use a cabin next his own, and insisted upon the chief sitting at the captain's table and partaking of his provisions.

He was kind and considerate to me, said Patuoni, and on the voyage treated me as a gentleman—as his equal. Many moons had been born and died, and then I heard that the good captain was returning with a writing from the Queen of England to the chiefs of my country, and my heart said, Up, Patuoni, assemble your native friends, be their numbers large, let their feet be nimble, and their words strong on behalf of your English friend.

We went to the meeting at the Bay of Islands, many in number, and with our tongues large to persuasion. The chiefs of that district opposed the new Governor at first, and were haughty and perverse; saying, We will not submit to an English Governor; let him go back oversea whence he came; but after listening to our words their thoughts changed; they said, Our friends Patuoni and his brother Nene, with other Hokianga chiefs wish us, we therefore will say Yes; we will do what the great Queen on the other side of the sea desires; our hands shall touch her writing; she shall be our mother, and we will be her children.

It was little imagined at the time either by the Europeans present or in England that the ruling spirit in this transaction was actuated by a feeling of gratitude for a kindness received

years before; and that this country owes the peaceful cession of a large and beautiful colony to the courteous conduct of a naval captain.

* * * * *

The fête was closed by the whole party simultaneously returning to their temporary huts on a point of land about a mile distant from the scene of the feast.

Scattered over the river were more than sixty canoes, paddling vigorously to the time beaten by one or two skilful men, selected by each company for that purpose.

The animation became more and more intense as louder and louder on the ear surged the chorus of voices, answering to the exhortations of the time beaters, "Be strong, be strong;" "Let your eyes be red;" whenever one large double-banked canoe with twenty or thirty paddles on each side gained upon or passed another; and as stroke by stroke they contended for the honour of the first place in the race.

THE DEAD HERO AND HIS WEAPONS.

CHAPTER XVI.

OLD TIMES—HEATHENDOM—THE FEAST OF THE DEAD.

Like foam on the crest of the billow,
Which sparkles and shrinks from the sight;
Like the leaf on the wind-shaken willow,
Though transiently, beauteously bright.

Like dew-drops exhaled as they glisten,
Like perfume which dies soon as shed,
Like melody hushed while we listen,
Is memory's dream of the dead.

THE remembrance of great men excites to greatness; and this faculty constitutes one of the main differences between man and the brutes, for in them the idea of heroism does not exist.

The memories of the persons and achievements of the illus-

trious dead have been preserved in the minds of their countrymen by means of monuments, statues, poems, public funerals, and periodically recurring celebrations; and all nations have endeavoured by these means to sow the seeds of future noble actions; and of such commemorations none more curious than the Hahunga, or feast of bones, a death ceremony observed amongst the New Zealanders.

Upon the demise of a chief, the corpse is placed in some retired spot, generally in a tree, until the flesh has rotted from the bones, and the interior portions of the head, which has been previously severed from the body, being removed, the outer skin is dried upon its framework of bones, thus retaining the living form.

The Hahunga takes place after the harvest of the extra seed food planted for the purpose, consisting of kumaras, potatoes, and maize; additional quantities of dried fish being also prepared. At the appointed moon friendly tribes are invited to attend and celebrate the feast of the dead, before the interment of the bones in their final resting place, frequently a picturesque spot by the banks of some rivulet, to which the deceased resorted for fishing, or a favourite dell wherein he was accustomed to ensnare birds.

The coffin or box stained with gaudy dyes, and elevated upon a platform, forms the depository of the remains; his axe, war-weapons, and favourite articles of apparel and ornament being buried with him; whilst his canoe, divided asunder, and the portions reared up at either end of the coffin, with such other adornments as native skill in wood carving may render available, produce an impressive funeral monument, increased in its solemnity by the suggestive melancholy of the feather-like foliage of the drooping rimu, and the graceful curves of the tree fern, intensified by the solitude of the surrounding forest.

Previous to the meeting, the priestess, or witch of the tribe, scrapes the bones clean with a shell; and the following ceremonies observed at the hahunga of Moki may be taken as a type of those generally observed.

Moki, a tall, athletic man, a very model for a sculptor's Hercules, but with all his wild manner and eccentricities a truth-telling, hospitable fellow, had lost the best beloved one of his six wives by death. The childish heart of the powerful decided man dictated that he should die too and rejoin her; so loading his musket and retiring into a neighbouring grove he was subsequently found shot through the heart, having pulled the trigger with his foot.

Being a great chief, and having died a heathen, the tribe resolved to celebrate his decease by the customary native rites; and a few favoured Europeans who knew him well and by whom he was much respected, were invited to attend.

It was late in the afternoon of the first day of the hahunga when our party arrived at the village, embowered in a rich valley through which ran a beautiful crystal stream, now murmuring and rippling its way over the boulders, and now slowly gliding in sleepy gentle curves, until it joined the large river of which it was a tributary.

Without delay we had presented to us the best provisions our hosts could afford; Indian corn roasted in a frying-pan, then boiled with water, and sweetened with sugar, formed a good substitute for coffee; kumaras, pumpkins, potatoes and pork, steamed in native ovens, were spread out in abundance, and large delicious water melons concluded our repast.

During our evening meal some observations were made upon the advantages the New Zealanders had derived from their commerce with Europeans; and with the self-complacency of Englishmen we concluded that our intercourse had been greatly beneficial to them. Some natives present inquiring the tenor of the remarks, they were interpreted, when a short pause ensued, soon broken however by a young man jumping up, and saying, The white men need not plume themselves on that point; he was not so certain that the advantages of European acquaintance were so great as Englishmen imagined; for he and all the natives had a stomachful of

complaints to make against white men in general, and sea captains in particular; he accused them of having brought guns which killed men at a snap quite quick; stinking waters which took away their senses; diseases which made them die slowly; all of which subjects he amplified with much humour and spirit.

But I brought Missionaries, blankets, and spades, said the commander of a merchant vessel, who was one of the party, endeavouring to clear himself from the sweeping censure of the speaker.

True, said the youth, but you also brought guns, and were they to dig with, or to clothe us, or to teach us?

To shoot birds with, responded the captain.

Indeed! Do you shoot birds with muskets in England?—we thought you shot birds with the guns you call fowling-pieces and double-barrels; besides, for what purpose was the lead?

To load the guns to shoot the birds, so that you might have food, said the captain, perceiving he was rather losing ground in the argument.

Very good; but why was it in great lumps, fit only to melt and be made into balls; because as you brought small shot also the lumps of lead were not necessary; and tell us, were the bayonets you had for sale to shoot pigeons with?

Whereupon the good sailor was compelled to admit that he had brought a miscellaneous assortment with a view to trade, not knowing what articles they might wish to purchase, adding that at least the good in his case preponderated over the bad; a fact readily admitted, with the remark that many captains brought a great deal of bad and no good at all.

Wrapping ourselves in the large new blankets the principal chief produced from his store-trunk, we slept soundly until dawn, at which early hour we found the crowds of natives listening with deep attention as one chief after another testified to some deed of worth or valour of their deceased friend.

He was always first in war and brave; the heads of his enemies

which hung round his hut were many; the slaves he took numerous; and then the various wars in which he had been engaged were recapitulated with much minuteness.

Once, said another, we followed our enemies to the banks of a river, down which they escaped in their canoes; we had none; Moki proposed the weaving of a large canoe out of flax-leaves; the great vessel sank much into the water, but was buoyant enough to carry the fighting party and we went to sea, followed the enemy round the coast, landed, fought, and overcame them. Moki suggested, Moki encouraged us to go upon the sea in such a trembling weak basket; he first landed on the beach and killed many, many, many of the foe. Ah, brave Moki!

On one occasion he was accompanied by a party of young men to some distance from home, and as the youths were cooking their meat a large party of older men belonging to another tribe drove them away from the food. To Moki they complained:—Our hearts are dark, and our limbs weak. Why, said he. We are hungry. My children, eat. We cannot; our food is being stolen. Indeed;—and quietly taking his gun he placed himself by the oven, saying, The man who puts his finger there shall die. It was enough; the frightened pilferers decamped.

Morning after morning, evening after evening, the narratives continued of some feat of war or memorable act of poor Moki.

Our attention was soon attracted by a mournful cry emanating from an assemblage of females, whose singular proceedings excited the most painful interest.

The front open verandah of a large hut had been decked out with feathers, boughs, shells, and fire-arms, and on a low plank were placed the skeletons of Moki and his wife, a more elevated shelf supporting the two heads; a gay new shawl covered the bones from view, and was gathered round the necks of the preserved heads which faced the spectators.

Grouped before this strange altar-like arrangement were the

sorrowing wives and the priestess, night and day keeping up an intermitting heartrending wail.

MOURNING FOR THE DEAD.

"He was so good to us, and loved us."

And they scored their necks with the mata, a volcanic siliceous product used for making mourning incisions.

"He worked in the forest, and with the timber purchased dresses and blankets to keep us warm."

And again would the gash be inflicted and the wail raised:—for blood shows love, say they.

"He provided us with food, he will never look upon us again; never more will his voice be heard returning with fish or birds, the result of his sport. Who so great as he?—who so good as he? —who will bring us rice, tobacco, and sugar now?" And the chorus of lamentations rang through the crisp bright morning air; the unhappy scene being continually renewed at the instigation of the priestess, the wretched women gashing their necks

and bosoms with the mata, until the mingled blood and tears rolled down their persons in one hideous stream.

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One of the English visitors present, affected to faintness with this manifestation of grief, removed his hat for a moment, and the head chief's wife, noticing that he was bald, crept up to his friend and inquired how it came to pass that the white man had no roof on his head, and whether it was not painful to him; she had never seen such a man.

It was explained that no pain resulted from baldness, and that such cases were of frequent occurrence in England.

This much astonished the old lady.

A wag of the party overhearing the conversation, intimated with much gravity that the women of England, when displeased, sometimes tore off their husband's hair; and suggested that this might be an instance of the kind, an insight into European manners which still further amazed the good woman, who thenceforward compassionated the bald pate on his conjugal infelicity.

LEAVING HOME.

CHAPTER XVII.

NEW TIMES—THE MISSIONARY.

Waft, waft, ye winds, His story!
And you, ye waters, roll,
Till like a sea of glory,
It spreads from pole to pole!

HEBER.

BORN in a seaport in the county of Devon, from which sailed the armies of the First Crusades, and whence had issued in after times many of the bold spirits who first traversed the Pacific Ocean, curbed the Spanish power in the West Indies, and destroyed the vaunted Armada; the Christian hero whose history we are about to trace had been in early life made familiar with

the romantic and touching narratives of those deeds of renown, and the love of adventure and travelling had been fostered by intercourse with seamen who, returning home, brought with them from foreign shores, coral and shells, skins, fruits, parrots, and other birds of gorgeous plumage, with curious articles of tasteful though rude workmanship; while their strange tales of perils among savage men, of gales and wrecks on desert coasts, left mysterious impressions of the regions across the sea.

Oft as the boy wandered on the shores of the magnificent bay, in a sheltered nook of which stood the quaint old town of his birth, and amused his youthful hours collecting seaweeds and shells, or climbed the neighbouring heights and rambled in search of wild flowers over the fertile country which opened out in lovely valleys on every hand, he would stop and dreamily muse while he watched some graceful ship recede from the coast before a favorable breeze, until first her hull, next her lower sails, and lastly her mast-heads disappeared from view as she seemed to enter the mystic cloud world beyond the horizon.

Missions to the heathen frequently formed the subject of home conversation, especially after a visit of the venerable pastor, who would sometimes read intelligence from a far off land in which the missionary writer described his labors, discouragements and successes; and the intense interest thus awakened was increased by the youth's favourite Sabbath reading, the narrative of St. Paul's voyages and travels.

His devout mother observed and hid these things in her heart, praying that he also might do

"Some worthy deed for human happiness."

An apprenticeship to a mechanical trade induced habits of persevering continuous toil, obedience and discipline; meanwhile the smouldering fire of undefined purpose was kept alive by the biographies of such noble men as Henry Martin and David Brainerd.

* * * * *

He resolved to become a Missionary.

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A voyage of several months duration on board an ill-conditioned whale ship, reeking with foul smells and worse language, sleeping in a miserably furnished small cabin, with food of coarse description and unwholesome water, were stern introductions to the severer trials of mission life, falling as they did upon a sensitive, poetic, temperament, though underlying all was a soul full of manly vigorous piety, ready to do and endure all things for his Divine Master.

On arrival, a stranger in a strange land, the desolation of loneliness was most oppressive, relieved only by the exercise of faith and hope, and the earnest study of the language and native modes of thought, preparatory to more direct endeavours to dissuade from cruel customs, and to impart higher views of the human and Divine natures, than inspired the heathen priests and people around him.

His general course of proceeding was to treat the natives as beings gifted like himself with reason and affections, to avoid wounding their prejudices or feelings by ridicule or strong assertion of the superiority of his own religion, for he had learnt of the Great Teacher not to quench the smoking flax nor break the bruised reed, and recollected and followed St. Paul's practice of taking courteous advantage of any established religious principle or position to obtain attention to his subject, "Whom therefore ye ignorantly worship, him declare I unto you," and thereby he secured many occasions of throwing the light of Christian doctrine, hope and duty, upon those slumbering natural truths lying deep in the heart of humanity. "When the Gentiles which have not the law, do by nature the things contained in the law, these having not the law, are a law unto themselves: which shew the work of the law written in their hearts, their conscience also bearing witness, and their thoughts the meanwhile accusing or else excusing one another."

And thus breaking up the ground by their own admissions he would push home the more prominent Christian truths with simplicity and clearness.

A peculiar aptitude for languages "the gift of tongues" conduced to a remarkable fluency, and "in season and out of season" as well in casual conversations as on set formal interviews, when he would give his reasons for the hope within him, and preach "temperance, righteousness, and a judgment to come," would he gently drop in the seeds of truth, or flash a living ray of light into their minds, disclosing to their consciences the dark chambers of imagery of their inner life.

On some of these occasions the argument would assume the form of an appeal to their strong and keen sense of humor and the absurd; thus a discussion on the nature of their Gods would sometimes terminate after this fashion.

You say that a Water God dug this river solely in order to paddle to the foot of his mountain residence up yonder.

We natives say so. Are the Gods more wise and strong than human beings? Assuredly, they overturn the canoes whether we will or not, and swallow the people and do many things we cannot. Is that river straight? No, it has many turns and is very crooked indeed.

Had the God been wise, would he have labored so much more than was necessary in digging a long winding river, when a short straight one would have saved distance, time, and trouble?

Truly, replied his hearers, laughing, it would seem that the God was a fool, even we should not have set to work in so stupid a manner; but we must not let him hear us say so.

Of the evils the Atuas (Gods) inflicted they scarcely dared to speak for fear of the consequences, but they pondered over these conversations as they lay in their low, smoky huts.

Frequently in arguing the points brought forward they would indulge their sarcastic vein; thus after listening to a statement on the subject of the Resurrection, a group of chiefs reclining on

their mats at the door of a hut enjoying the pleasant sun and their pipes would rejoin, "Your religion is good for you white men, ours for us natives, if we were to join you, it might please you in this world, but in the resurrection of which you speak you would say, go away you dark colored dirty natives, your mats and blankets are not clean enough to be admitted into our company;—on further explanation being attempted they would suddenly interrupt with sarcastic banter; Ah! no clothes, good, where is your modesty, will not you white people be ashamed to be without clothes; on the whole we prefer our own heaven to yours, we should like after death to have many wives, much feasting and carousing and brave wars, to glitter as the stars which are dead chiefs' eyes and be like our fathers.

Seizing hold of their crude belief in a sensual future state he would lead them on to higher, purer, truer thoughts of that eternal glorious temple of God's favour and presence to which this life should be the Christian's beautiful and peaceful entrance hall.

The parables and life of Christ he found to excite their attention and interest, and when in the depths of his holy poetic fervor he would break forth in a stream of rich happy eloquence on the subject so near his heart, the Saviour's dying love, they would gaze and listen with astonishment, and while some would consider it a mental visitation from the Gods, many would deem the subject far above their capacity to comprehend and experience, a thing to be classed with the white man's other great and various knowledges, as the building of ships, the making of guns, blankets, and implements; the ideas, however, sank down into the minds of others, and one and another would in silent, sad, thoughtfulness, with subdued spirit, visit the good man to inquire and learn more about these matters, and then with unaffected simplicity the Christian minister would explain to them the Scriptures, the power of God, and the wisdom of God.

The laborious Missionary toiled on: by degrees portions of

the Bible were translated and hymns composed, useful information scattered, and schools established, the attendance of the wayward pupils being retained only by the intense desire to learn manifested by both young and old.

Although previously unacquainted with the mysteries of composing and printing, on the arrival of a press and printer he soon acquired the art, and speedily excelled the professional man in his style of executing the little books which issued from their small establishment.

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In all his work how much soever depressed the Missionary might be, there was one pure firm mind and cheerful spirit, whose encouraging hopeful views and lofty aspirations stimulated to renewed effort, soothed in sickness and advised in difficulty, the Missionary's wife was indeed a "help meet for him."

In early life their families had been neighbours, the boy being the only child of his parents, the children of the other family consisting of two sisters, the younger a florid, laughter loving, blue eyed girl, who contrasted strongly with the intense life which glowed in every action of her pale, raven tressed sister.

The decided character of the elder girl shewed itself in the lead she took in their childish play, and when in his youthful enthusiasm the boy would talk of palm trees, and fierce beasts, and savage men, and express a hope that one day he should visit such scenes, while the younger sister would suggest her fear lest he should be killed by the cannibals or die by shipwreck, the elder more frequently hinted at his want of courage, for she understood not the deep earnestness of his nature.

Yet with all her raillery, on the occasion of a serious illness in which a burning fever threatened to consume the boy, his most sober assiduous attendant and vigilant watcher was the little dark-eyed maiden, from whose hands alone the bitter medicines were taken without complaint.

The small pension which had been bestowed upon the girls' father for wounds received in the "imminent deadly breach," not

sufficing to meet the wants of his growing family, he removed to London, to procure by such service as he could perform additional income wherewith to maintain an honorable though humble position.

Their mother, gifted with a rich sonorous contralto voice and perfect knowledge of music, early taught them the principles and practice of that science, and the clear tones of the silver voiced maidens rang out merrily in the unsurpassed melodies of the old English ballads and glees.

To secure a good education was the anxious care of both parents, and the two children were placed first as pupils and afterwards as teachers in one of those educational institutions which at that period were being formed near the metropolis. The energy she threw into the great work speedily raised the elder sister to the most prominent position among the laborious minds of the establishment: duty to do being her morning motto, and duty done her evening satisfaction. Excessive labor in acquiring and diffusing knowledge, unrestrained by the earnest entreaties of the worthy matron, brought on a serious illness, during a gradual recovery from which a severe trial of character in another form awaited the young teacher.

To win the heart of the bewitching girl had long been the object of the son of a wealthy citizen, who had a formidable rival in a rising author:—with unextinguished hopes the same day brought communications from both aspirants, the desire alike strong, though the latter outpoured in more passionate language the stirred depths of a richly cultivated intellect.

The maiden sought by a quiet walk in the retired lanes, whose hedgerow flowers were now unheeded, to calm the agitation of mind under which the day's duties had been performed: the warm dry summer air had just been freshened by a gentle shower, the birds sang with merry thrill, and the reviving trees rejoiced as though new wine ran through their swollen veins.

In this vague walk, her distressed and weary eye observed a

notice, that the ordination of her youthful friend would take place that evening:—they had been unaware of each other's course of life since parting at the little seaport.

Solemn was the service, and with clear response the high souled youth who had passed through his academic course with universal admiration, stood in graceful manhood and with noble simplicity to acknowledge his principles and avow his resolution, and in that solemnity more than one present lived the past years over again in rapid thought, and formed resolves.

Seated at a small secretary in her chamber, the earnest spirited girl penned that evening two letters, couched in terms of tender sympathy but polite firm refusal, and transmitting them by the first conveyance, the writer, early the following morning, wended her anxious way through the mazy streets of the metropolis to the temporary home of the Missionary during his preparation for the voyage, to him not so wearying a matter as to others who were departing about the same time, for he had no family cares.

With trepidation the wan worn girl, now verging into full womanhood, entered the room, and was greeted with a hearty shake of the hand, upon which he imprinted a warm kiss, followed by rapid inquiries after his old friend, her mother.

Alas, dead!

Father?

Dead also!

And sister?

Married:—merged in the great world of London.

And you?

God's waves break over me.

A silence, more meaning than words, followed; at length with forced cheerfulness he said, "I am going amongst the savage men we used to talk about."

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Her brimming eyes revealed the secret of her soul!

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Improved health resulted from peace of mind, her strong affections finding repose in the admiring love of a noble-minded husband, and with all the ardour of her nature she prepared to second his labours.

On arrival abroad she soon found a large sphere for her activity and intelligence; becoming the kind friend of the elder females, the nurse of the sick, the instructress of the young, teaching them domestic duties, the use of the needle, and the mysteries of reading and writing; hymns she composed for them, and little books, and taught them to sing the songs of Zion; and from her pen proceeded many of those exquisitely simple, picturesque, and pathetic descriptions and appeals which have so often won over to the Mission cause the hearts of doubtful, cold, Christians.

Hearing the little prattlers of the Mission family call the good wife "Mother," the native women, not having a word in their own tongue expressive of that endearing relation, the nearest being "a female parent," coined a word, "Mata," being as close as they could pronounce the Saxon word mother; and thus the young Englishwoman became the mother of all, old women and babes, young maidens and sturdy men, all learned to style her mother, and from that time to this day the Missionaries' wives have been designated "Mothers."

Gathering around the chair of the young Englishwoman, a group of veteran warriors would frequently seat themselves at her feet, and some would gaze upon the printed pages with dreamy listlessness, and exclaim, "Book too full, dear mother,—memory of old natives too bent like old moon,—but with a struggling melancholy earnestness would add,—young mother must read, and the words will go down into our hearts, and growing up will produce good fruit like the peach trees. Others would attack the task bravely, and as they acquired the power of joining the letters into words, would exult at their progress in the divine art of reading; then the Lord's Prayer would be repeated, sentence by sentence, until perfectly learnt, and with intense attention did

they listen to the quiet teaching of the Christian wife as she explained the meaning of this model prayer.

The ancient women also confided to her their sorrows, and sought her counsels in their perplexities; and their frequent solicitations to explain this and to advise upon that, bore witness to the influence and superior power of educated intelligence over the teachings of barbarian experience.

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The habit of observation acquired in early life, aided by the systematic reading and study of after years, invested with a peculiar charm the many novel natural objects which now surrounded the Missionary. With grace and truthfulness he penned notices of the botany, zoology, and geology of the country; and his short, clear, expressive communications on these subjects were ever received with unmixed delight by the learned in England.

Nor did these occasional reliefs from his more serious avocations appear to him an infringement of duty; having long learned the lesson that Nature and Revelation emanate from the same Almighty Father, and that "His works are sought out of all them that have pleasure therein;" moreover he conceived that this life and the next are but as two volumes of the one history of man, whose duty to both states is alike incumbent.

To bless barbarism with the light and consolation of religion, and the arts of civilization, and to present to the eyes of the civilized world any new treasures he might discover in the storehouse of God's creation were equally, he deemed, parts, though differing immensely in importance, of the high duty of his life.

As the monks have left traces of their love of horticulture in the gardens of the old abbeys and colleges of England, so our Missionary's first impulse on settling in a new district was to surround his dwelling with a vineyard and garden well stocked with every obtainable fruit-tree and plant. Nor was the cheering solace of music and song forgotten, and in the still summer even-

ing might the happy sounds of human voices, with flute accompaniment, be heard arising from the Missionary's home; his family singing the different parts to the wonder and admiration of the listening natives. In the planning and building of houses and boats his skill and aid were often sought and freely bestowed, and the impress of his genius was manifest throughout the land; the head and hand of a master mind being everywhere visible.

Years of instruction, argument, and example, and attendance on the sick wrought a great change.

You may recollect, said a venerable chief to the Missionary, that soon after you first came I was very ill, and sent for the prayer-man of my tribe, who mumbled many incantations, and at last lay down by me, and from beneath his mat pulled out a broken tin pot which he alleged he had taken from my side, and had been the cause of all my pain. Ah! added the fine old man, with a laugh, and I was so foolish as to believe him.

Unlimited was their faith in the Missionary's medical skill; and tooth-ache, gun-shot wounds, fevers, bad eyes, and all the diseases of youth and age were brought for his examination and treatment.

Homeopathy they could never have understood; as the sum total of their physic logic was comprised in the sentence, "If a little is good, more must be better." They would say, "Why wait several days to recover, each day drinking a little of the nauseous stuff, better to take the whole medicine at once and be well to-morrow;" and frequently, in spite of strict injunctions to the contrary, three doses would be imbibed at a draught.

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Many powerful tribes abandoned heathen customs, discontinued theft, and were bright examples to Europeans, joined the Mission and adopted Christian worship; and solemn, and not easily to be effaced from the memory, was the sight of hundreds of reformed savages, clothed, and sitting in their right mind, joining in praise and following their pastor as a deep murmuring echo in the simple accents of the Lord's Prayer.

Nor lacked the good Missionary other strong decisive evidence of the firm hold his principles had taken on their minds; in proof of which one collective and one individual instance are all our space will allow of being introduced into this little volume.

Collective. In one district several tribes came to the conclusion that it did not comport with their Christian profession to *possess* arms, and for a long season fire-arms were totally discarded, the most savage people in the world thus restraining their most powerful propensity as a result of their embracing Christianity, nor was the *defensive* possession of weapons resumed until an influential Christian Chief had been shot dead by the heathen, the blanket of his young companion who escaped being pierced with many bullet holes.

Individual. At a subsequent period one chieftain who had procured a valuable fowling-piece, at the expense of many weeks' labour, felling timber in the forest, was returning to his potato-harvest with his family, when, passing through a narrow gorge of the river, the strong eddies caused the deeply-laden canoe to strike upon a rock and overturn.

A few days afterwards the following conversation occurred between the writer and the chief:—

Author: Your canoe upset a few days ago?

Chief: Yes.

Author: I hear you lost your clothes, spades, axes?

Chief: All.

Author: And that beautiful gun which I recollect you prized so much?

Chief: I had that in my hand and was swimming to the shore.

Author: Were you exhausted, and obliged to part from it?

Chief: No; but while swimming I saw my book (Testament) floating near, so I let my gun sink, and swam after my book, which I saved.

* * * * *

Returning from an exhausting, tedious journey of several weeks' duration, undertaken to further his great work, the Missionary's homeward course required a sea passage by canoe.

For a while they sailed happily as on the waters of bliss until, crossing an estuary, and being at some miles distance from the shore, a misunderstood direction as to the setting of a large mat sail resulted in the overturning of the frail bark.

By great exertion it was righted, and an attempt made to disburthen it of its watery cargo. Alas! traditions of the devouring sea-gods flashed across the minds of some of the crew, part of whom were swimming, and others supporting themselves by holding on to the sides of the canoe, and despite the sublime calm of the few, consternation seized the majority, and in the terrible death struggle which followed they turned the canoe bottom upwards, and most of the native crew, with our friend, sank to their long sleep in the depths of ocean, where "they rest from their labours and their works follow them."

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